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DEPARTMENT OF AGRICULTURE
PROVINCE OF ALBERTA

ANNUAL REPORTS
1966-68

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1968 ANNUAL REPORT
DEPARTMENT OF
AGRICULTURE
PROVINCE OF
ALBERTA

PUBLISHED BY THE ORDER OF THE LEGISLATIVE ASSEMBLY

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To HIS HONOUR,
J. W. GRANT MacEWAN,
Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1968.

I have the honour to be, Sir,

Your obedient servant,
H. A. RUSTE,
Minister of Agriculture.

REPORT OF THE DEPARTMENT OF AGRICULTURE

1968

The Honorable Henry A. Ruste,
Minister of Agriculture.

Sir:

I have the honor to submit the annual report of the Department of Agriculture for the calendar year of 1968.

Due to the weather and marketing conditions, 1968 was a difficult year, resulting in the carry-over of large quantities of tough and damp grain. In spite of the adverse climatic conditions, the yields were slightly above average. Gross income from livestock production again exceeded that from crops. The variety of crops, including vegetables, and livestock production, did provide a sound, diversified foundation which resulted in greater economic stability.

The quiet revolution which has been so rapidly reshaping the agricultural industry and the continuous adjustments required in production, processing and marketing, have made great demands upon every individual in the industry and on every department staff member.

This has brought about many changes in department policies, programs and services, both currently and in long-term planning, which are detailed for 1968 in the reports of the seven divisions of the department in the following pages.

I am pleased to report that positive progress was made during the year with the Alberta Agricultural Co-ordinating Committee, the Alberta Agricultural Research Trust, P.R.I.M.E., the three Agricultural and Vocational Colleges, laboratory services, regionalization, department organization, co-operation with farm and agribusiness organizations, farm consolidation and land utilization, irrigation, disease and pest control, upgrading and retraining, extension programming and all the other technical, developmental and conservation responsibilities of the department.

During the year, certain ARDA responsibilities were assigned to the Human Resources Development Authority and some department staff were seconded to the Authority as a result. This was a most important change for the better utilization of the human and physical resources of the province.

For historical purposes, I wish to record the purpose of the Department of Agriculture as defined by the Executive Committee during 1968.

> "The purpose of the department is to develop and conserve, for the common good, the human and physical resources of agriculture and in this general interest shall perform those functions and provide services related to: Agricultural Exten-

sion and Education, Animal Industry, Veterinary Services, Plant Industry, Agricultural Economics, Water Resources and Program Development for progressive and continued growth of the Alberta agricultural industry.

"Furthermore, such functions and services shall be commensurate with sound scientific and economic principles to attain maximum production of high quality food and other agricultural products; to stimulate to maximum development the human and physical resources available to the industry and to improve the economic and social position of those engaged in agriculture."

May I express my sincere appreciation to you and the Honorable H. E. Strom for the guidance and wise counsel in administering department affairs. Appreciation is expressed also to the staff members for their high calibre of service.

Finally, on behalf of all the members of the staff, it is my pleasure to acknowledge and express appreciation to everyone who has assisted the Department with the work undertaken for the continued progress of agriculture in Alberta.

Respectfully submitted,
E. E. BALLANTYNE, D.V.M., P.Ag., F.R.S.H.

REPORT OF THE ANIMAL INDUSTRY DIVISION

1968

W. H. T. MEAD, B.Sc., P.Ag., Director

DAIRY BRANCH:

R. P. DIXON, B.Sc., M.Sc., P.Ag., Dairy Commissioner
G. A. MacALLISTER, B.S., P.Ag., Supervisor, Dairy Plant Inspection
A. A. HUGHES, B.S., P.Ag., Supervisor, Dairy Cattle Improvement
E. S. BRISTOW, B.Sc., Asst. Supervisor, Dairy Cattle Improvement
K. J. SPILLER, B.Sc., Supervisor, Food Technology
W. A. McGRATH, Chief Clerk and Dairy Statistics

REGIONAL DAIRY SPECIALISTS:

Calgary City
W. E. Duncan, B.Sc., P.Ag.

Calgary Rural
L. C. Montgomery

Camrose
J D. Rasmussen

Edmonton City
K. S. Anderson

Edmonton S.W.
J. R. Findlay, B.Sc.

Edmonton East
D. J. Prince

Edmonton N.W.
H. L. Beckett

Fairview
K. J. MacDonald, B.S.A., P.Ag.

Lethbridge
A. O. Aspeslet

Red Deer
S. S. Paulsen

Vermilion
Vacant

DAIRY AND FOOD LABORATORY:

V. W. Kadis, Ph.D., Director
D. A. Hill, B.Sc., P.Ag.
O. J. Jonasson, B.Sc.
W. E. Breitkreitz, B.Sc.
D. G. Howatt, B.Sc.
R. V. Hodges, B.Sc.
C. E. Hughes, B.Sc.

LIVESTOCK BRANCH:

W. C. GORDON, B.Sc., P.Ag., Livestock Commissioner
J. S. LORE, B.Sc., P.Ag., Livestock Supervisor (R.O.P. Beef)
K. C. Davies, B.Sc., P.Ag., Asst. Livestock Supervisor (R.O.P. Beef)
R. A. REDDON, B.Sc., M.Sc., P.Ag., Livestock Supervisor (Swine)
K. K. PFANNMULLER, B.Sc., Asst. Livestock Supervisor (Swine)
H. B. JEFFERY, B.S.A., M.Sc., P.Ag., Livestock Supervisor (A.I.)
J. L. KERNS, B.Sc., P.Ag., Livestock Supervisor (Cattle)
V. M. GLEDDIE, B.Sc., M.Sc., P.Ag., Livestock Supervisor (Sheep)
P. J. MARTIN, B.S.A., M.Sc., P.Ag., Animal Nutritionist & Feed Testing
A. W. N. ERICHSEN, B.Sc., Supervisor of Feed Associations
H. M. LINK, Supervisor Livestock Regulatory Service
H. G. PALLISTER, Supervisor Brand Inspection
L. BRINKHURST, Brand Recorder
G. R. JOHNSTON, Livestock Investigator
Vacant, Brand Inspection Fieldman (Southern Area)
R. W. BOGGS, Brand Inspection Fieldman (Northern Area)
J. DROZDIAK, Chief Clerk and Licensing

REGIONAL LIVESTOCK SUPERVISORS:

Southern, G. A. Ross, B.Sc., P.Ag., Lethbridge
North East, W. Dietz, B.Sc., P.Ag., Vermilion
Peace River, J. B. Milne, B.Sc., P.Ag., Fairview

POULTRY BRANCH:

G. R. MILNE, B.S.A., Poultry Commissioner
G. O. JOHNSON, B.Sc., Poultry Supervisor

REGIONAL POULTRY SPECIALISTS:

Camrose	K. H. Rowe, B.S.A., P.Ag.	Edmonton	Vacant
Calgary	K. Darlington	Fairview	W. Hutchison
Lethbridge	D. G. Lofthaug, B.Sc.	Red Deer	G. E. Patsula, B.Sc.
Edmonton	J. L. Plumley, B.Sc., P.Ag.		

The major change in the administrative structure of the division was separation of the program, technical and extension functions of the Livestock Branch from the regulatory function. This was accompanied by the appointment of Mr. H. M. Link to the position of Supervisor of Livestock Regulatory Services, with direct responsibility to the director. Administration of the Feeder Associations Guarantee Act remained with the director. In as much as this structure was set up mainly to facilitate administration, the reports of feeder associations and regulatory functions appear in the Livestock Branch report.

The retirement of Mr. I. A. Coles from the position of Supervisor of Feeder Associations on July 31; and of Mr. Jack Belzer as Livestock Investigator on August 26; both for reasons of health, is reported with regret.

Other major staff changes include the appointment of G. R. Milne as Poultry Commissioner on November 5 to fill the position formerly held by R. H. McMillan, and the appointment of Alfred Erichsen on September 23 as Supervisor of Feeder Associations succeding Mr. Coles.

Following is the division report by branches.

DAIRY BRANCH

General Review

Milk production during 1968 totalled 1,555,707,000 pounds, a decrease of 10.2 million pounds or 0.7 per cent compared to 1967. This slight decrease is significant since fewer cows were milked. A total of 215,000 cows were reported in milk on the June census. This is a drop of 20,000 cows from last year. Below average rainfall during the growing season seriously affected both hay and pasture crops throughout much of the central portion of the province. Poor harvesting conditions resulted in lower feed quality.

The average milk production per cow for 1968 was 7,236 pounds — an increase of 573 pounds over 1967 — and an all time high. It is the first time production per cow has exceeded 7,000 pounds of milk. This significant achievement was obtained and is indicative of the improvement in dairy cattle management resulting from the specialization of the dairy producer.

The estimated farm value of milk production was $62,607,000, an increase of $2,243,000 over 1967. The farm value estimate included the Federal Government subsidy payments. From January 1, 1968, to March 31, 1968, the subsidy payment to producers of milk or cream for manufacturing purposes was $1.10 per hundredweight. This meant an increase of 31.42 cents per pound butterfat to the churning cream producer over and above the initial payment of approximately 66 cents per pound of butterfat paid by the processor who is guaranteed 63 cents a pound for butter by the Agricultural Stabilization Board.

The Canadian Dairy Commission introduced a 12,000 pound subsidy eligibility quota on April 1, 1968. Producers who did not ship 12,000 pounds of milk or 420 pounds of butterfat during the period April 1, 1967, to March 31, 1968, did not receive a quota for the dairy year April 1, 1968, to March 31, 1969, but were paid a phasing out payment based on the actual amount shipped during the period April 1, 1967, to March 31, 1968. Subsidy quota entitlement to those producers over 12,000 pounds of milk or 420 pounds of butterfat was based on their shipments for the previous dairy year, April 1, 1967, to March 31, 1968. On April 1, 1968, the gross subsidy payment was increased to $1.31 per hundredweight. The holdback from manufacturing milk shippers was increased from 11 cents to 15 cents per hundredweight, leaving a net subsidy payment of $1.16. The boldback for export assistance from cream producers was reduced from 3.15 cents per pound of butterfat (11 cents per hundredweight of milk) to one cent per pound of butterfat. The Canadian Dairy Commission has made no announcement with respect to the holdback for export assistance during the 1967-68 dairy year.

The quality of Alberta creamery butter showed a slight decrease during 1968 with 96.5 per cent classified as "Canada First Grade". Approximately 99 per cent of Alberta creamery butter was graded in 1968.

Miss Shirley Clark of Namao reigned as Alberta's Dairy Princess during 1968 and successfully retained the Canadian Dairy Princess crown at the national finals at the Canadian National Exhibition in Toronto in August. It is worthy to record that for the past three consecutive years the Alberta representative has been named Canadian Dairy Princess.

The purebred Holstein herds of Bailey Farms Limited, Clover Bar; and A. Millington, Medicine Hat, were dispersed by public auction during the year.

Alberta creameries were active in competing in provincial, interprovincial and national exhibitions and as in previous years were highly successful in these competitions.

Staff Changes

On August 16, 1968, Mr. K. J. Spiller was appointed to the position of Supervisor of Food Technology.

On November 1, 1968, Mr. N. Kuzyk and Mr. W. S. Alexander joined the staff at Fairview and Lethbridge respectively as dairy fieldmen on fluid milk dairy farm inspection in these areas of the province.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1968

The quantity, price, value and utilization of milk production during 1968 is reported in the following table. To indicate changes for the previous year, 1967 figures have been included.

	Year	Pounds	Milk Equivalent Pounds	Per Cent Total Milk	Price	Value $
Butterfat for Creamery Butter	1968	25,952,000	749,736,000	48.2%	.674 per lb.	17,492,000.00
	1967	27,051,000	781,466,000	49.9%	.662 per lb.	17,908,000.00
Farm Dairy Butter	1968	941,000	22,019,000	1.4%	.590 per lb.	555,000.00
	1967	978,000	22,885,000	1.5%	.590 per lb.	577,000.00
Milk for Cheesemaking	1968		42,413,000	2.7%	3.30 per 100 lbs.	1,400,000.00
	1967		39,117,000	2.5%	3.19 per 100 lbs.	1,248,000.00
*Milk for Concentrating and Milk and Butterfat for Ice Cream	1968		158,106,000	10.2%	3.32 per 100 lbs.	5,249,000.00
	1967		140,688,000	9.0%	3.25 per 100 lbs.	4,572,000.00
Fluid Milk Sales	1968		289,580,000	18.6%	5.81 per 100 lbs.	16,825,000.00
	1967		287,478,000	18.3%	5.61 per 100 lbs.	16,128,000.00
Cream Fluid Sales (milk basis)	1968		65,923,000	4.2%	3.29 per 100 lbs.	2,169,000.00
	1967		63,646,000	4.1%	3.11 per 100 lbs.	1,979,000.00
Milk Farm Home Consumed	1968		133,300,000	8.6%	2.81 per 100 lbs.	3,746,000.00
	1967		134,260,000	8.6%	2.76 per 100 lbs.	3,706,000.00
Fed Farm Animals	1968		94,630,000	6.1%	2.81 per 100 lbs.	2,659,000.00
	1967		96,350,000	6.1%	2.76 per 100 lbs.	2,659,000.00
Kept on Farms, Skim milk from Creamery Butter and Skim milk and Buttermilk from Dairy Butter	1968	614,929,000			.525 per 100 lbs.	3,228,000.00
	1967	647,925,000			.49 per 100 lbs.	3,175,000.00
Estimated Federal Subsidy on Butterfat for Creamery Butter	1968					7,086,000.00
	1967					6,659,000.00
Estimated Federal Subsidy on Manufacturing Milk	1968					2,198,000.00
	1967					1,753,000.00
Total	1968		1,555,707,000	100.0%		62,607,000.00
	1967		1,565,890,000	100.0%		60,364,000.00

* Does not include butterfat from creamery butter used in the manufacture of ice cream.

ESTIMATED PRODUCTION AND VALUE OF FACTORY PRODUCTS

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during 1968 with corresponding figures for 1967 added for sake of comparison.

	Year	Quantity	Price	Value [illegible]
Creamery Butter, lbs.	1968	32,040,000	.6512 per lb.	20,864,000.00
	1967	33,396,000	.6357 per lb.	21,230,000.00
Cheddar Cheese, lbs.	1968	3,303,000	.4820 per lb.	1,592,000.00
	1967	3,103,000	.4431 per lb.	1,375,000.00
*Ice Cream, gals.	1968	5,028,000	1.50 per gal.	7,542,000.00
	1967	5,482,000	1.50 per gal.	8,223,000.00
Fluid Milk Sales, lbs. (including processing charges)	1968	289,580,000	7.58 per 100 lbs.	21,950,000.00
	1967	287,478,000	7.36 per 100 lbs.	21,158,000.00
Cream [illegible] Milk (including processing charges)	1968	65,923,000	5.06 per 100 lbs.	3,336,000.00
	1967	63,646,000	4.86 per 100 lbs.	3,093,000.00
Skim milk and Buttermilk Sales For Human Consumption (including processing charges)	1968	22,616,000	4.37 per 100 lbs.	988,000.00
	1967	21,518,000	4.18 per 100 lbs.	899,000.00
Skimmilk and Buttermilk, lbs	1968	63,638,000	.525 per 100 lbs.	334,000.00
	1967	61,107,000	.49 per 100 lbs.	299,000.00
Whey, lbs.	1968	24,324,000	.2625 per 100 lbs.	64,000.00
	1967	22,925,000	.245 per 100 lbs.	56,000.00
**Miscellaneous Manufactured Products	1868			10,299,000.00
	1967			8,318,000.00
Total	1968			66,969,000.00
	1967			64,651,000.00

* Includes hard and soft ice cream.

** Includes concentrated milk products, cottage cheese, whey butter, cheese other than cheddar and yoghurt.

EXTENSION ACTIVITIES

Dairy Branch personnel addressed meetings and participated in short courses and workshops dealing with topics such as dairy production, feeding and herd management, and the processing of dairy and frozen food products. Branch personnel served on various provincial and national committees and attended meetings relative to the diversified activities of the dairy and frozen food industries. Extension activities included participation in field days, judging at exhibitions, 4-H achievement days, the Dairy Princess Competition, the Edmonton District Grassland Improvement Program and regional Dairy Herd Improvement workshops.

The branch issued monthly newsletters to producers and processors and distributed circulars, bulletins and directives to all segments of the industry. In 1968, letter fills "Washing the Cream Separator" and "Extraneous Matter in Churning Cream" were made available to all churning cream producers. A circular "Beware of Residues from Contaminated Feeds" directed to all dairymen was a joint release from the Crop Protection and Dairy Branches.

Continuing the project of recognizing producers of quality manufacturing milk, six plaques were awarded to new producers while inscribed date-plates were awarded to six winners of the previous year in recognition of their continuing achievement in the production of quality milk used in the manufacture of cheddar cheese, milk powder and other concentrated dairy products. To achieve recognition, industrial milk producers must obtain a minimum score of 85 per cent based on premises and production methods.

Throughout the year, examinations were conducted to qualify candidates as licensed graders and testers of dairy products. To maintain satisfactory levels of proficiency, instruction and examinations were given to tank milk graders who required licenses and were responsible for the collection of bulk milk supplies from the farm.

The farm extension program for industrial milk producers accelerated during the past year, particularly in the Bruderheim, Thorsby, Camrose and Red Deer areas. One hundred and seventy-four visits to producers' facilities were made with particular attention to housing, storage and handling of the raw product, care and condition of utensils including the milking unit, and dairy cattle management and milking practices.

Branch personnel continued to examine the methods of bulk milk sampling at dairy farms in addition to sampling and testing techniques at the processing plants.

DAIRY INSPECTION AND INSTRUCTION

A total of 1,217 plant inspections were carried out by the field staff. Official check tests were made on 22,181 shipments of milk and cream for butterfat, while 53,285 lots of churning cream were checked for grade. Of the samples officially graded and tested 1.64 per cent required adjustments. Thirty samples of butter were checked for moisture content.

A total of 4,812 boxes of butter were check weighed and official weight certificates representing 1,841,090 pounds of butter were issued to Alberta butter processors availing themselves of the Canadian Dairy Commission support policy.

In co-operation with Canada Manpower, the Department of Food Science, University of Alberta, the dairy industry, Canada Department of Agriculture, the Dairy Branch, a four week Dairy Short Course was held for dairy plant personnel in November. During the first two weeks of the course, dairy chemistry, dairy bacteriology, dairy cattle improvement, dairy product grading, and industrial relations were some of the topics dealt with. During the last two weeks the 14 enrolled students visited plants in the city of Edmonton observing the manufacture of butter, ice cream and cottage cheese and the processing of fluid milk products. Field trips were also made to the cheese factory at Thorsby and to the milk processing plants in Camrose and Wetaskiwin. Through such industrial training programs, industry personnel are kept abreast of technological advances.

Licensing

License	1967	1968
Milk and Cream Testers Form "A"	262	250
Cream Graders Form "B(C)"	206	201
Plant Milk Graders Form "B(M)"	140	143
Tank Milk Graders Form "B(M)"	129	153
Dairy Manufacturing Plant Form "C"	104	103

Since November 1, 1968 when the Dairy Branch appointed two fieldmen on fluid farm inspection, 71 fluid milk farms have been inspected in the Peace River area and in southern Alberta.

Bulk Milk Handling

This method of handling fluid and manufacturing milk from farms to processing plants continued on the upswing.

The following table shows the number of farm bulk tanks in use in the current year as compared to 1967.

	1967	1968
Edmonton Milk Shed	456	444
Calgary Milk Shed	287	255
Lethbridge Milk Shed	52	50
Medicine Hat Milk Shed	22	20
Red Deer Milk Shed	18	15
Stettler Milk Shed	13	15
Evansburg Milk Shed	14	13
Grand Centre Milk Shed	11	11
Miscellaneous Fluid Milk Sheds	29	46
Barrhead Manufacturing Milk	—	18
Camrose Manufacturing Milk	94	120
Red Deer Manufacturing Milk	62	94
Thorsby Manufacturing Milk	22	37
Wetaskiwin Manufacturing Milk	27	40
Miscellaneous Manufacturing Milk	15	15
Total	1,122	1,193

A total of 60 milk transport trucks operated in Alberta faciliating the movement of fluid and industrial milk supplies throughout the province. Early in 1968, short courses for bulk pickup operators were held at Edmonton, Red Deer, Calgary and Lethbridge and were attended by over 100 persons. The purpose of the one day courses was to up-date licensed personnel and provide extension education for new, less experienced operators in the handling of bulk milk supplies.

Quality Control

If the dairy industry is to flourish, it must provide a continuous supply of high quality dairy products. The Quality Control Advisory Committee of the Alberta Dairymen's Association continued to study and seek improved methods in the production and processing of quality milk and dairy products. Continuing investigations were carried on relative to the composition of milk from six areas of the province and from herds representing the principal dairy breeds.

Early in May, a steering committee comprised of Extension agrologists, Veterinary Services and Dairy Branch personnel, equipment suppliers, dairy and producer representatives met at Calgary and drafted guidelines for the formation of a "Qualitv Milk Control Program" with particular concern focused on the problem of "mastitis". Attendance at a series of producer meetings held this fall in the Calgary milk shed totalled approximately 250 persons. Topics discussed at these producer meetings included economic losses due to mastitis, herd health and clinical approach to detection and treatment of mastitis (leucocytes, etc.), principles of recommended milking procedures and screening tests for the detection of mastitis.

Annual competitions based on the commercial grading of butter and cheese throughout the year were supervised by the branch. Commercial ice cream and cottage cheese samples were scored by panels at Calgary and Edmonton under the supervision of branch personnel. To encourage good housekeeping and dairy plant improvement, all operating plants were scored by regional dairy specialists. The top scoring plants were evaluated by headquarters personnel and winners determined. Fifty plants scored 80 per cent or better and qualified for a merit certificate.

Margarine and Imitation Dairy Products

The only apparent major changes in the margarine industry have been an increase in the number of brands of soft type margarine offered for sale and the augmenting of single pound packages by two and three pound multi-packages. The branch carried on a continuing survey program covering labelling, packaging, color, composition and new carton approval throughout the year.

The following table indicates the extent of product scrutiny during the year. Corresponding figures for 1967 are in brackets.

	Samples	Checked	Compliance		Non-Compliance	
Color	20	(19)	11	(12)	9	(7)
Composition	17	(16)	17	(15)	—	(1)
Labelling and Packaging	70	(29)	67	(27)	3	(2)
New Cartons	15	(7)	15	(7)	—	—

Under the Dairymen's Act, the manufacture and distribution of "imitation" dairy products, except margarine, dessert topping, and coffee whitener, is prohibited in the province.

DAIRY CATTLE IMPROVEMENT SERVICE

The principal activity of this section during 1968 was the Cow Testing Service. Visits to testing centres, correspondence and record analysis studies were carried out by the supervisor and dairy production specialist throughout the year. This section continued to co-operate with other branches and divisions in extension activities throughout the province.

Cow Testing

An all time record of 20,922 cows were tested by the Cow Testing Service, and new record production averages of 11,728 pounds of milk and 412.2 pounds of butterfat highlighted the year.

The 541 herds under test represented an increase of 1,344 cows and 35 herds compared to the previous year.

During 1968, 82 new herds and 2,056 cows were placed under test, while 1,319 cows in 47 herds discontinued the service.

Mail Order

This was the basic program offered to 314 herd owners throughout the province. Monthly milk samples were lifted by the herd owners from individual cows and forwarded to one of the Dairy Branch testing centres. Two plans of cow testing were offered to herd owners. Milk from each cow was either weighed daily (Plan I) or weighed on one day a month (Plan II) by the herd owners.

The following table shows the number of herds and cows tested under the mail order system during the past three years.

	1966	1967	1968
Number of Herds	313	290	314
Number of Cows	9,155	9,299	10,191

Owner-Sampler Route Plan

This program operated in the Edmonton and Calgary areas. A full-time fieldman visited each farm monthly and collected the milk samples lifted by the herd owners. Heifer calf identification and ear-tagging was done during the monthly visits by the fieldman.

The following table shows the number of herds and cows tested under the Owner-Sampler Route Plan Program by centres during the past three years:

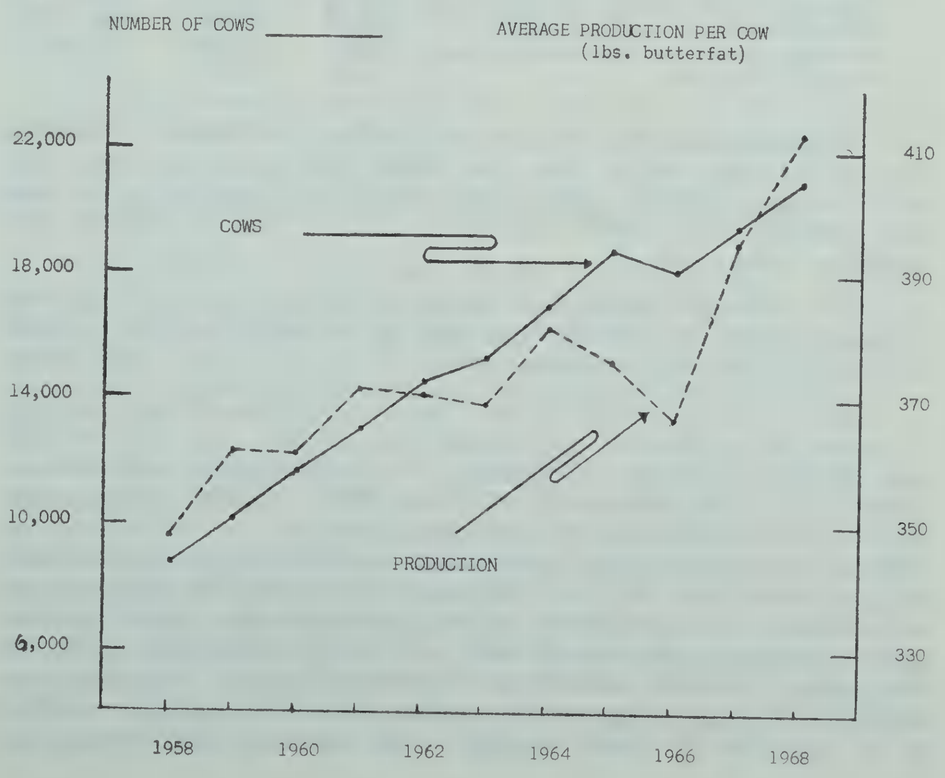
	1966	1967	1968	1966	1967	1968
		Edmonton			Calgary	
Number of Herds	136	155	170	53	61	57
Number of Cows	6,356	7,168	7,824	2,655	3,111	2,907

The fieldman made 1,875 farm visits, ear-tagged 1,910 heifer calves and maintained calf record books for 151 herd owners in the Edmonton area.

A total of 28 new herds and 822 cows enrolled in the Edmonton Route Plan in 1968, while 13 herds with 402 cows discontinued the program.

The Calgary Route Plan Program enrolled 7 new herds and 221 cows, while 11 herds with 435 cows discontinued the program. The fieldman made 924 farm visits, ear-tagged 411 heifer calves and maintained calf record books for 28 herd owners.

Despite the declining number of dairy cattle and dairy farms, there has been a substantial increase in the use of the Cow Testing Service during the past ten years. The following graph illustrates the increase in the level of production per cow which has accompanied this growth.



Testing Centres

Testing centres were in operation at the locations shown in the table below. The Vermilion Cow Testing Centre moved into new facilities at the Vermilion Agricultural and Vocational College early in the year.

In June 1968, the Babcock test was discontinued as the routine test for butterfat at the Edmonton cow testing centre. It was replaced by a Milko-Tester, a precision instrument designed to measure the butterfat content of milk. The installation of the Milko-Tester has substantially increased the capacity of this laboratory.

The following table shows the number of tests conducted at each centre during the past three years.

Testing Centres	1966	1967	1968
Calgary	23,811	24,190	23,837
Camrose	10,860	12,513	13,945
Edmonton	64,188	69,025	73,093
Fairview	2,094	2,168	2,454
Lethbridge	8,381	9,415	9,950
Red Deer	16,020	16,904	19,389
Vermilion	3,101	4,132	4,739
Totals	128,455	138,347	147,407

The following table summarizes the Cow Testing Service for 1968. Comparable figures for 1966 and 1967 are included.

	1966	1967	1968
Number of Herds under test	502	506	541
Number of Cows under test	18,166	19,578	20,922
Average Number of Cows per Herd	36.2	38.8	38.7
*Number of Cow Years	13,298	13,918	14,756
Average Number of Cow Yrs. per Herd	26.5	27.5	27.3
Average Production of Milk (lbs.)	10,547	11,313	11,728
Average Production of Butterfat (lbs.)	366.8	394.9	412.2
Average Test (%)	3.48	3.49	3.51

*Herd averages on the basis of cow years. The total number of cows on test during the year was used in determining the herd average. Where a new cow was placed on test, or a cow was sold or died; only that part of the year in which she produced was used.

The average production of all cows on test showed an increase of 415 pounds of milk and an increase of 17.3 pounds of butterfat over the previous year.

Cows on the mail order program showed an average increase in production per cow year of 541 pounds of milk and 19.3 pounds of butterfat. This represents new record highs of 11,456 pounds of milk and 409.1 pounds of butterfat on the mail order program and is the first time the 11,000 pounds milk and 400 pounds butterfat levels have been exceeded. Cows on the route plan programs increased production by 320 pounds of milk and 15.8 pounds of butterfat per cow year, reaching new levels of 11,995 pounds of milk and 415.2 pounds of butterfat. Favorable climatic conditions during the winter months were offset by poor growing and harvesting conditions which resulted in a reduction in feed quality. The substantial increases in production were, therefore, somewhat surprising and reflect, along with the slight reduction in the size of herd, more rigid culling of low producing cows.

The percentage of herds and cows under test in Alberta is still very low. Of the estimated 215,000 dairy cows on June 1, only 9.73 per cent were enrolled on the Provincial Cow Testing Program. An additional 3,160 cows tested on the Federal R.O.P. Program brings the total to 11.2 per cent of the Alberta dairy herd.

Reports and Competitions

1. Annual reports, showing both total and average milk and butterfat production, were sent to all herd owners and district agriculturists' offices.

2. An honor roll, listing all herds of 5 cow years or more, and producing an average of over 400 pounds of butterfat, was compiled; herds were required to be under test for the entire cow testing year. Forty-two per cent of the herds tested qualified for the honor roll in 1968. This compares to 33 per cent in 1967 and 22 per cent in 1966.

3. A total of 11,220 graded certificates of production were issued for cows completing the necessary production and recording requirements. Each herd owner was provided with a certified record book, recalled as necessary to add the latest available production records.

4. Changes in the Federal R.O.P. Program to allow for the testing of grade cows in R.O.P. tested herds resulted in a co-operative program of certification of production for cows in herds transferring from the Provincial Cow Testing Program to the R.O.P. Program.

5. Dairy Branch data provided the basis for scoring competitions conducted by the Alberta Dairymen's Association.

DAIRY AND FOOD LABORATORY SERVICES

The laboratory continued to place emphasis on assisting food producers and processors in the production of safer and higher quality products. At the same time, the laboratory protected the consumer by ensuring that food products met the standards established by federal, provincial and civic regulatory authorities.

Rapid developments in analytical instrumentation and automation resulted in the purchase of a milk analyser (based on a colorimetric principle and called "Milko-Tester") which was used for butterfat determinations. This was followed by the purchase of an infra red milk analyser which can determine the protein, lactose, butterfat and solids-not-fat content of milk. So far, the latter instrument has been used on an experimental basis only. In order to meet the increased workload, an additional gas chromatograph and several smaller instruments also were acquired.

To more accurately describe the present function of the unit, the name of the Dairy Laboratory was changed to Dairy and Food Laboratory.

The majority of samples submitted to the laboratory came from public health inspectors in the various health units throughout the province. A considerable number of samples were received from Department of Agriculture personnel, while the remainder originated from the Public Utilities Board, processing plants, producers and consumers.

More than half of all samples submitted for analysis were milk and milk products such as whipping cream, cereal cream, chocolate milk, buttermilk, etc. In addition to microbiological and chemical analyses, a substantial number of these products were tested for the presence of antibiotics. A total of 7,037 milk and cream samples were analyzed for antibiotic residues; 0.88 per cent were positive compared to 0.87 per cent in 1967.

Screening tests for Q-fever were continued on raw milk obtained from dairy herds throughout the province. This survey was conducted in co-operation with the provincial and federal health authorities, and a detailed report was submitted to these agencies.

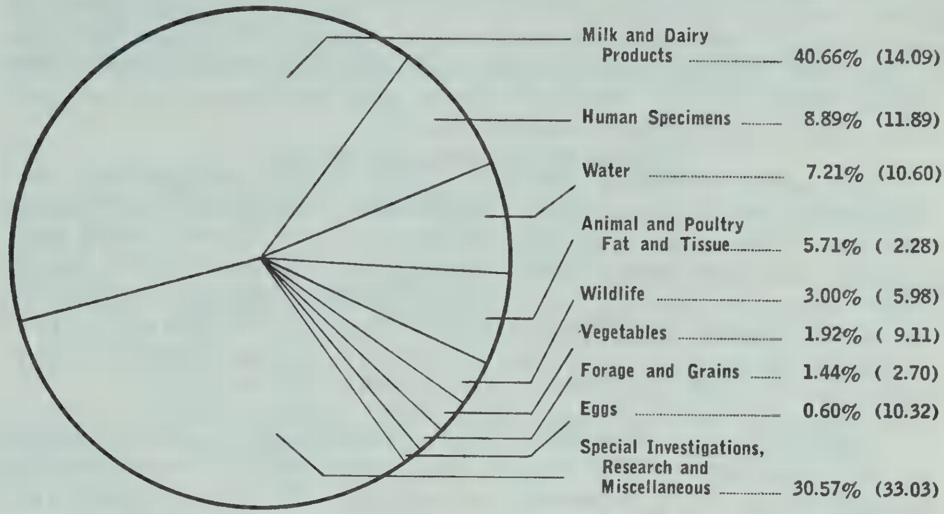
The investigation of milk for the presence of radioactive compounds was carried out on a reduced scale. The decrease in the number of analyses was a direct result of diminished testing of atomic weapons.

A total of 21,750 samples, involved 64,543 various tests, were analyzed. The following table indicates the type and number of samples submitted and the number of analyses performed. The corresponding figures for 1967 are in brackets.

	No. of Samples Analyzed		No. of Analyses Performed	
Milk and Cream	15,291	(14,197)	50,511	(46,272)
Butter	3,099	(3,199)	6,016	(5,640)
Cheese	211	(206)	845	(1,036)
Ice Cream	1,374	(1,009)	4,165	(3,169)
Dry and Evaporated Milk	44	(29)	142	(115)
Bacteriological Plant Survey	12	(26)	49	(130)
Eggs and Egg Products	186	(327)	243	(459)
Meat Curing and Pickling Brines	51	(85)	240	(505)
Meat and Poultry	187	(51)	228	(61)
Vegetables	33	(128)	33	(128)
Wildlife	90	(84)	90	(94)
Forage and Grains	35	(38)	35	(42)
Water	120	(172)	120	(195)
Human Specimens (Blood & Tissues)	148	(167)	156	(177)
Soil	8	(5)	8	(7)
Washing and Sanitizing Compounds	199	(216)	398	(421)
Radioactivity in Milk	90	(122)	90	(122)
Miscellaneous	572	(757)	1,174	(1,505)

The laboratory continued to provide a complete pesticide residue testing service for various provincial departments. As these analyses are very expensive and require costly equipment, the entire pesticide residue testing program was carried out under the guidance and co-ordination of the Alberta Interdepartmental Committee on Pesticides, and the Alberta Department of Agriculture Food Residue Committee. Routine analyses and several special investigations were carried out on dairy products, eggs, meat and poultry, wildlife, vegetables, water, soil, feeds, human tissues and blood, etc. Under this program, 1,665 specimens were analyzed during 1968, an increase of 260 over 1967.

The circle graph illustrates the type and percentage of specimens analyzed for pesticide residues during 1968. Comparative percentage figures for 1967 are shown in brackets.



The application of new and different types of pesticides for use in agriculture necessitated the introduction of new analytical procedures and instruments. As more emphasis was placed on organophosphorous and carbamate compounds, the laboratory adjusted its testing procedures and installed a gas chromatograph equipped with a flame photometric detector system. A great deal of experimentation with new methods and instruments was required. Research concerning methodology was conducted by personnel, and some of the results were published in scientific journals.

To check the accuracy of pesticide residue analysis, the laboratory participated in collaborative studies organized and conducted by the National Committee on Pesticide Use in Agriculture, Ottawa.

As in the past, certain staff members attended provincial, national and international scientific meetings. Some staff members chaired, or were members of various provincial and national technical committees closely related to food quality.

FROZEN FOOD PLANTS

The administration of the Frozen Food Act, including licensing, inspections and instructional services to the industry was continued as a function of the Dairy Branch. During the year, there were 918 inspections, compared to 964 in 1967. Inspectors lifted brine samples which were tested for salt percentage and bacteriological quality by the Dairy and Food Laboratory. Assistance in the planning of new plants and alterations to existing plants and slaughterhouses was given to several operators. In co-operation with the Department of Agriculture Food Residue Committee, approximately 200 samples of animal fat was collected from various Alberta locker and processing plants and checked for pesticide residue levels.

To select winners for the Merit Award Competition and determine those operations eligible for proficiency certificates scoring of all plants was carried out by Dairy Branch field staff. The top plants in each district were given a final score by supervisors from the branch. Proficiency certificates were presented to 42 operators for efficient operations that offered a high standard of service and maintained acceptable sanitary standards.

The following tabulation was prepared from data supplied on monthly reports and covers the twelve month period ending November 30, 1968. For comparison, data for the previous year is included.

	1967	1968
Number of Specialized Processing Plants	51	49
Number of Frozen Food Locker Plants	89	84
Number of Animal Food Storage Plants	1	1
Number of Lockers Installed	16,536	14,626
Number of Lockers Rented	10,376	9,223
Percentage of Lockers Rented	62.7	63.1

The total number of locker rentals continue to decline which has been the pattern of the past few years. Many plants have reduced the number of lockers available which has meant a slight increase in the percentage of lockers rented.

The following table shows the total volume processed by both locker and specialized processing plants for lockers and for home freezers. The volume of processing for lockers continued to decline while the volume processed for home freezers continued to increase. The total volume of processing by both locker and processing plants continued to increase and this year's volume surpasses all previous years.

Year	Volume Processed for Lockers	Volume Processed for Home Freezers by Locker Plants	Volume Processed for Home Freezers by Processing Plants	Average Poundage Per plant
1964	3,956,435	13,176,759	7,350,709	163,186
1965	3,298,034	12,327,077	9,673,252	173,262
1966	2,960,415	14,111,229	10,013,622	188,092
1967	2,504,085	14,742,301	13,397,796	218,887
1968	2,117,955	13,179,390	15,614,399	232,419

The above data indicates the greater use by patrons of the processing services offered by the industry. Of the 31 million pounds processed by lockers and processing plants, almost 29 million pounds (92 per cent) was processed to go into home freezers.

The following is a summary of the amounts and types of foods processed.

Year	Total Pounds Processed	Fresh Meat %	Cured Meats %	Lard %	Fish %	Poultry %	Big Game %	Game Birds %	Fruits %	Veg. %	Misc. %
1960	18,509,247	77.8	9.6	1.2	.4	2.9	3.4	.1	1.5	1.9	1.2
1965	25,298,363	84.3	8.4	1.2	.3	.8	2.6	.1	.8	1.1	.4
1966	27,085,266	87.0	6.6	1.0	.1	.5	3.1	.1	.4	.8	.4
1967	30,644,182	85.9	8.2	1.2	.1	.5	2.8	.0	.3	.7	.3
1968	30,911,744	86.5	8.8	1.1	.1	.3	2.1	.1	.2	.4	.4

MILK CONTROL REPORT

Submitted by the

PUBLIC UTILITIES BOARD

J. B. MOORE, Administrator of Milk Control

Increases or decreases in the consumption of fluid milk products in the various controlled areas for the calendar year 1968 were as follows:

Calgary	+5.1%	Camrose	—0.1%
Crow's Nest Pass	—5.0%	Edmonton	+4.4%
Lethbridge	+6.5%	Medicine Hat	+5.4%
Ponoka	+7.7%	Red Deer	+9.6%

2% partly skimmed milk continues the upward trend in all areas. Skim milk consumption decreased in Red Deer and Ponoka, Calgary and Edmonton show increased skim sales, the reverse of last year's trend. Other areas continue to show increased skim sales.

Increases or decreases in milk production were as follows:

Calgary	+2.9%	Camrose	—1.1%
Crow's Nest Pass	—6.3%	Edmonton	+0.1%
Lethbridge	+5.1%	Medicine Hat	+2.2%
Ponoka	+3.1%	Red Deer	+3.1%

Production per producer per day, in the Calgary area averaged 1,398 pounds, in the Edmonton area 1,110 pounds, Lethbridge averaged 1,755 pounds, while Medicine Hat averaged 1,254 pounds.

The total number of milk producers in the 9 areas declined by 20. The decline in producer numbers represents a 3.5% decrease in the number of Calgary producers—a 2.8% decrease in the number of Edmonton producers. Cream producers are gradually being phased out. Licensed distributors now total 23.

Seven Orders were issued during the year as follows: Order Nos. 28580, 28581, 28592, 28889, 28890, 28983 and 29023.

The Board continued its active and financial support of the Dairy Cost Survey and the several milk foundations.

Membership continued in the International Milk Control Agencies Association.

LIVESTOCK BRANCH

General Review

The year 1968 was unusual from the standpoint of livestock feed supplies. Hay yields were poor due to a prolonged warm, dry period during May and June. Wet weather during late summer and through September and October resulted in much rough fodder becoming available through second growth in cereal crops. It also resulted in much of the grain crop going into winter storage in tough and damp condition. The net result was a poor supply of good hay, an adequate supply of roughage of questionable quality and ample stocks of grain in farm storage, much of which will have to be fed before spring arrives or dried if storage problems are to be avoided beyond early spring.

Cattle marketings at public stockyards and packing plants were up 10.4 per cent over 1967 for the first eleven months of 1968. The highest monthly average price for good slaughter steers on the Calgary market was reached in August at $27.21 per cwt. The lowest monthly average price was $24.24 in March.

Alberta hog marketings were up approximately 9 per cent in volume from 1967. Weekly marketings were heaviest during the first six months of the year, with carcasses graded in federally inspected packing plants exceeding 30,000 per week for 20 weeks during this period. In the last six months of 1968, carcasses graded per week exceeded 30,000 for only five weeks. The lowest monthly average price for the year for Grade A dressed hogs at Edmonton was $23.37 per cwt. in March. The highest monthly average price was $31.10 in September.

The June 1 survey estimated sheep numbers down 42,000 head or 14.6 per cent from 1967. The monthly average price for good lambs on the Edmonton market varied from a high of $28.00 in June to a low of $20.46 in September.

Cattle

Cattle wintered well although good quality roughage was in short supply.

Lack of early rains resulted in poor spring pastures. Summer grazing was good in southern Alberta but central and northeastern regions experienced very dry conditions which caused critical pasture and hay shortages. Late summer rains improved early fall pastures and fodder supplies. Severe August frosts and heavy late rains caused profuse second growth in cereal crops and a severe reduction in grade and yield. Marketing of low grade, tough grain in the central part of the province through cattle will be advantageous.

Cattle and calf population was estimated at 3,332,000 at June 1, 1968 compared to 3,405,000 at the same time in 1967.

Brand Inspection Record of Live Cattle and Calf Shipments Out-of-Province

	1964	1965	1966	1967	1968
British Columbia	50,308	52,564	56,244	45,479	56,543
Saskatchewan	2,063	3,431	3,622	2,637	8,489
Manitoba	4,712	13,914	11,574	3,949	23,020
Ontario	80,130	89,618	117,460	86,182	155,542
Nova Scotia			50	42	
Quebec	2,904	7,622	15,948	15,476	23,934
New Brunswick	63	204	50	16	95
United States	10,920	45,906	30,769	3,504	25,148
Newfoundland	40				
Prince Edward Island			33	151	
Total	151,140	213,259	235,750	157,436	292,771

Beef cattle producers sold 3,658 bulls through 35 contributor sales approved under Cattle Improvement Policy B. Sales were held at the following points: Brooks (four), Calgary (two), Camrose, Cereal (two), Coronation, Didsbury, Drayton Valley, Drumheller, Edmonton, Fairview, Fort Macleod, Grande Prairie, High River (two), Lacombe (two), Lethbridge (two), Lloydminster, Mayerthorpe, Medicine Hat, Olds (two), Red Deer, Rocky Mountain House, Rimbey, Stettler, St. Paul, Vermilion and Westlock.

	No. Sold	Total Value	Average Price
Hereford	2,719	$1,534,775.00	$565.00
Aberdeen Augus	728	362,280.00	498.00
Shorthorn	211	106,235.00	504.00

Aberdeen Angus and Hereford bulls averaged $26.00 per head less than in 1967 while Shorthorns averaged $65.00 lower.

CATTLE IMPROVEMENT POLICIES

Bull Purchase Assistance

Twenty-three bulls were placed under Policy "A" and 1,176 under Policy "B". The following table summarizes these applications for the past five years.

Year	Policy "A"	Policy "B"
1964	53	1,478
1965	23	1,624
1966	37	1,350
1967	30	1,213
1968	23	1,176

Policies "A" and "B" were terminated on December 31, 1968.

Warble Control Pilot Project

The development of a pilot project based on compulsory treatment of cattle for warbles in the County of Wetaskiwin is outlined in the livestock pests section of the Plant Industry Division report. The Livestock Branch of the Animal Industry Division assisted by supplying personnel to attend meetings organized by the county and in arranging for financial assistance to be paid to the county toward organizational and operational costs. The grant established for this pilot project was seven cents per head for cattle treated in the first year, four cents per head the second year and two cents per head for the third, fourth and fifth years. Provision has been made to assess the effectiveness of treatment under this project. Extending assistance for warble control areas in other counties as a provincial program will depend on the results of the assessment.

RECORD OF PERFORMANCE TESTING PROGRAM

Purebred Section

An annual report of the Alberta section of the Federal-Provincial Beef Cattle Performance Testing Program is printed at the termination of each year's results in June. Copies can be obtained from the Livestock Branch.

The following table shows the participation by purebred breeders in the last five years.

Year	No. of Herds	Male Calves Weighed	Female Calves Weighed	Total Calves Weighed
1964	96	1,853	1,747	3,600
1965	117	2,246	2,148	4,394
1966	145	2,809	2,789	5,598
1967	174	3,167	3,254	6,421
1968	232	3,979	4,119	8,098

Commercial Section

A Commercial Performance Testing Program was initiated in 1967 and the requirements are outlined in the 1967 annual report.

Participation in the program to date:

Year	Herds	No. of Calves
1967	15	705
1968	46	2,862

The Alberta Beef Cattle Performance Testing Advisory Committee met February 8. Recommendations of the committee included:

1. Proceed with plans to develop a beef cattle test station on University of Alberta property at Ellerslie.

2. That slaughtering and meat research facilities should be incorporated into the beef cattle testing station.

3. A bonus policy should not be established on a performance test basis.

Plans were started to develop a beef cattle test station in 1969. University of Alberta property at Ellerslie was approved as a site by the Minister and the University of Alberta Board of Governors.

Pilot Progeny Test Project

1. Phase I—This involved collection of semen from beef bulls over a three year period and was completed in 1967.

2. Phase II—semen from 19 bulls, collected in 1967, was distributed to 15 ranches in June, 1968, and bred to 579 cows. The Ontario Association of Artificial Breeders provided the service of distribution for the major part of the semen.

Increased demand for individually identified cows for progeny testing necessitated a policy to pay the co-operators to complete the Pilot Progeny Test Project. The policy provides the herd owner a compensatory payment of $15.00 per cow serviced where conception rate equals or exceeds the average A. I. conception in the herd, and $20.00 per cow where conception rate falls more than 10 per cent below the average A. I. conception.

3. Phase III—

(a) As reported last year, semen from 19 bulls was distributed to 12 ranches. Three ranches were unable to use the semen. Nine ranches reported a total of 245 calves born. Sixteen progeny groups were selected to enter the progeny test station at Bassano, Alberta. However, due to lost identification of the progeny, there is not a full complement of 10 calves in each progeny group.

(b) The progeny group reported in the 1967 annual report completed the progeny test in June, 1968.

Sire	Wt./day of age at completion of test	
	His Progeny	Contemporaries
Britisher Wetmore AGA 13V	4 steers av. 2.29	65 steers av. 2.36
(Reg. No. 913897)	6 heifers av. 1.99	17 heifers av. 2.09

Grants under the Municipal Scale Purchase Policy were made to the County of Barrhead, M.D. of Fairview, M.D. of Lac Ste. Anne, I.D. No. 11 and 22, I.D. No. 134, I.D. No. 58, 65, 68 and 69, County of Flagstaff and County of Ponoka.

Under the assistance policy for progeny testing of Canadian owned sires for beef production, a grant was paid to the Alberta Beef Cattle Performance Association which tested 12 sire groups at the Bassano progeny testing station.

Artificial Insemination

Reports completed in 1968 covering 1967 breedings, show cow numbers inseminated by A.I. units down 2,532 head from 1966. Inseminations to dairy and dual purpose sires were down 2,095 head and to beef sires down 437 head. There were 18,606 vials of beef semen sold directly to ranches who serviced an estimated 14,887 cows. Including direct semen sales, 95,000 cows were serviced artificially in 1967 for an increase of 3,000 head or 3.3 per cent over 1966. Cow-calf operators increased their interest in A. I. in 1967.

Four regional short courses were held with 48 attending. Stockmen's short courses in A. I. were held by the industry at Brooks, Taber and Calgary with 55 attending.

Breed	**1962**	**1963**	**1964**	**1965**	**1966**	**1967**
Holstein	46,645	48,013	45,931	44,421	44,367	42,815
Aryshire	3,060	2,669	2,625	2,343	2,230	2,013
Guernsey	2,188	2,213	2,058	1,917	1,802	1,866
Jersey	2,944	2,876	2,479	2,587	2,214	2,184
D.P. Shorthorn	2,049	1,887	1,561	1,222	1,292	1,336
Red Poll	361	126	146	269	231	205
Brown Swiss	1,270	2,022	2,469	2,865	2,956	2,578
Not Separated			169			
Total Dairy	**58,517**	**59,806**	**57,438**	**55,624**	**55,092**	**52,997**
Hereford	8,684	10,018	10,824	11,442	10,899	11,115
Angus	7,271	9,147	9,366	9,544	9,142	8,886
Shorthorn	2,074	2,110	1,970	1,823	1,671	1,643
Charolais	3,369	3,425	3,587	4,896	5,194	4,657
Not Separated			604	147	296	782
Other	512	270	212	217	351	33
***Total Beef**	21,910	24,970	26,563	28,069	27,553	27,116
Total Breedings	80,427	84.776	84,001	83,695	82,645	80,113

* Includes cows of ALL BREEDS bred to beef sires.

Percentage of female breeding population bred by A. I.	6.9	7.2	6.9	6.7	7.6	6.0
No. of Herds	9,287	9,572	8,664	8,481	8,550	7,050

Direct Semen Sales From Semen Producers To Cattle Owners (1967)

Breed	No. of Vials
Hereford	5,760
Angus	4,007
Shorthorn	1,483
Charolais	6,342
Brown Swiss	266
Holstein	390
Simmental	120
Other breeds and "not separated"	238
Total	18,606

Licences were issued in 1968 for the operation of 49 inseminating businesses and eleven branch offices. One hundred and sixty-one technician licences were issued. Fifty-four Class 1 and 92 Class II licences were issued authorizing technicians to inseminate domestic animals. Also 13 permits to train were processed. Twelve Class III and three Class IV licences were issued authorizing respectively the collection and initial processing and the collection and final processing of semen. Two semen producing business licences were issued, one at Calgary and one at Vermilion Agricultural and Vocational College.

The diploma course in animal reproduction at the Vermilion Agricultural and Vocation College was changed in 1968 and incorporated into the regular diploma course where it was offered in the fall session as an option for students majoring in animal science. Six students took advantage of the course. At the last regular post-diploma course at Vermilion, 14 students attended for the three months of January to March.

The principles of sire evaluation were discussed with A. I. unit directors, managers, technicians and farmer groups.

A majority of units reported for the first eleven months of the year 38,183 services to Holstein sires.

Production Classification of Holstein Sires by Comparison 1968 (1967 figures in brackets)

	Non-Proven	Natural or Preliminary Proof	Below —3	—3 to 0	0 to +3	Above +3
No. of Services	4323 (5395)	687 (1919)	1357 (759)	3529 (5499)	8690 (4923)	16,531 (15,465)
Per Cent of Total	12.3 (15.9)	2.0 (5.7)	3.9 (2.2)	10.0 (16.2)	24.7 (14.5)	47.1 (45.5)

During the year, 71.8 per cent of the Holstein sire services reported were those of plus proven sires compared to 60 per cent in 1967. In addition, 3,066 services to United States Holstein bulls were recorded.

Sources of semen used by units in 1967 were as follows:

	First Services	% of Total
The Ontario Association of Artificial Breeders	47,193	59
The B.C. Artificial Insemination Centre	26,233	33
American Breeders Service	5,593	7
Prairie Breeders	1,094	1

Livestock Feeder Associations

Thirty-two feeder associations operated under the Feeder Associations Guarantee Act during the 1967-68 season. There were 1,162 active members who fed 45,084 cattle and 2,158 lambs, utilizing a credit of $6,118,552.50.

Twenty associations operated under annual guarantee and twelve associations operated under continuous guarantee. Loans outstanding at August 31 under the continuous guarantees totalled $1,684,818.13.

The Mannville Livestock Feeders Association Limited did not operate in 1967-68.

1967-68 Feeder Association Operations

Association	No. of Members	No. of Cattle	No. of Sheep	Credit
Acme	38	1,870		$ 252,004.62
Andrew-Willingdon	17	528		68,248.16
Barrhead	34	1,057		173,694.04
*Bashaw	71	2,702		331,537.12
Battle River	58	2,383		350,795.17
Big Valley	23	842		109,810.26
*Bowden	24	955		134,641.75
Bow Valley	22	540	70	62,606.09
Cardston	27	1,071		149,211.04
*Carstairs	46	1,636		230,560.21
*Central Alberta	105	4,344	1,055	591,554.36
Central Peace	18	617		69,158.18
*Delburne	28	1,105		164,301.29
Drumheller	37	1,573		211,924.59
East Olds	43	1,769		235,439.55
Glenwood	5	100	322	16,473.56
*Grande Prairie	49	1,635		198,062.49
Innisfail	24	907		124,263.48
Knee Hill Valley	55	2,030		338,078.47
*Little Bow	55	1,589	298	195,426.15

Association	No. of Members	No. of Cattle	No. of Sheep	Credit
Marwayne	26	1,047		122,177.09
Meadowbrook	25	1,191	51	148,370.08
North Peace	20	577		67,871.36
*Okotoks	38	1,548		199,951.21
*Parkland-Stavely	49	1,649		252,467.70
Ponoka	42	1,414		249,627.07
*Raven	47	2,173		267,118.65
Raymond-Magrath	8	436		54,305.96
*Red Deer	47	1,785		216,389.60
Taber	30	1,002	362	158,657.13
*Vegreville	15	528		57,133.27
Western	36	2,481		316,692.80
Total	1,162	45,084	2,158	$6,118,552.50

*Associations operating under continuous guarantee.

Summary of Feeder Association Operations covering the past five years

Feeding Season	No. of Assoc.	No. of Memebrs	Cattle	Sheep	Amount of Credit
1963-64	36	1492	51,382	5,067	$5,854,345.80
1964-65	33	1033	44,459	3,966	4,199,846.77
1965-66	33	1101	45,143	3,910	5,158,097.85
1966-67	33	1229	46,317	3,692	6,250,503.86
1967-68	32	1162	45,084	2,158	6,118,552.50

Swine

Pig production in Alberta increased approximately nine per cent in 1968 compared to an overall increase of about five per cent for Western Canada. Nationally, 1968 production was unchanged with over eight million animals marketed. The market price for Grade A carcasses at Edmonton ranged from a low of $22.55 the latter part of April to a high of $32.50 the last of August, with an average price for the year of $27.38. This was slightly higher than the 1967 average of $26.82 and the 1958-67 ten year average of $26.08 but was just below the five year 1963-1967 average of $27.87.

Despite stable average returns in recent years, pig producers are continually encountering rising production costs. The "1967 Alberta Hog Enterprise Analysis", published jointly by the Economics and Animal Industry Divisions, estimated the cost of producing a 200 pound market pig at $38.66 compared to $37.02 in 1966 and $32.10 in 1965. Operators of larger production units where capital and labor inputs are greater, indicated the hog enterprise analysis figures underestimate actual costs by 10 to 15 per cent.

In 1968 the pig industry attained many of the changes it had sought since the first National Hog Conference in 1964 and continuing through 1965 and 1966. On December 30 the A-B-C grading method was replaced by a 'predicted yield of lean content' system based on weight and a total of carcass backfat measurements at two sites. Fourteen backfat and nine weight categories provide the basis for establishing an index range of twenty-four per cent (88 to 112) with an index of 100 denoting the average carcass. Price is established on this average carcass with producers receiving a straight percentage increase or decrease in return for carcasses indexing above or below the average. The federal premium for carcasses of A grade was decreased from $3.00 per carcass to $2.00 April 1, but with the new appraisal system, $3.00 is to be paid for each carcass indexing 103 or higher.

The controversy over the method of marketing of pigs in Alberta, which has been an issue for at least three years, was resolved. The Alberta Agricultural Products Marketing Council conducted an 'opinion poll' early in the year where pig producers were requested to indicate their preference of four marketing schemes: a marketing board (single selling agency); a hog merchandising and development authority (multiple selling agencies); a swine commission (voluntary selling); continuing with the present marketing system. The marketing board proposal was favored. During mid-summer and fall, all pig producers were given the opportunity of registering for a formal vote on a marketing board. The proposal for setting up a 'Producers Marketing Board' was carried by a 68 per cent majority, and at year's end the appointment of a seven man provisional board was going forward. The Alberta Swine Council, first organized in 1964 with the intent of becoming the overall representative of the province's swine industry, was still operating on a provisional basis.

Record of performance testing for swine underwent a complete change. Meetings of the National Advisory Board on Record of Performance for Swine in June (attended by the Livestock Commissioner) and November (attended by the Livestock Supervisor of Swine) developed a new two-phase testing procedure to replace the sow-litter test program which had operated for the past thirty years. These are (1) a boar performance home test program where all boars on a participant's farm must be backfat probed and weighed between the weight range 180-220 pounds and (2) a sire progeny test where eight pigs, two from each of four sows and by the same sire, are appraised for estimated yield of trimmed cuts, age to slaughter and feed required per 100 pounds live gain. The Alberta Record of Performance Advisory Committee for Swine met three times during the year, primarily to act on the changes in R.O.P. testing. Also during 1968 a pilot progeny-performance test was conducted at the Lacombe test station. Test groups (12 in January, 11 in June) comprised of two boars and two slaughter sibs from the same litter were appraised; the boars for backfat and age adjusted to a 200 pound standard and the slaughter pigs for normal R.O.P. data. This test was conducted to assess the feasibility of performance testing boars at test stations and to further the information on procedures to be followed under the new R.O.P. program for swine.

A number of the larger pig operators in the province offered commercial producers crossbred females and third breed boars in breeding groups. There appeared to be an increased trend in this direction in pig production. Producers continued to show interest in non-white breeds, notably the Hampshire, Poland China, American Yorkshire, Spotted and Duroc. The Hampshire breed received the most attention. Producers were advised that merit of animals rather than breed must be considered.

The swine section of the Livestock Branch, in collaboration with the Information Branch, was designated early in the year to prepare a one hour script on pig production for 'This Business of Farming' 1969. Factors to be considered when establishing a pig operation constituted the theme of the film which was titled 'Gearing for Production'. Selection, breeding, feeding and facilities for handling the breeding herd were the topics covered.

Under the 1967 national R.O.P. testing program, 60 breeders (51 Alberta, nine British Columbia) tested 278 litters in Alberta test stations. They were made up of 204 Yorkshire, 49 Lacombe, 22 Landrace and three Tamworth. There were 43 home tests, of which 36 were from the Lacombe Research Station.

The Alberta Swine Herd Health Plan listed 46 enrolled herds (of which 15 were certified) as of November 1, a gain of four over 1967. This program was initiated in 1960 with 10 herds.

Swine Improvement Policies A and B continued without change, but a termination date of July 1, 1969 was announced. Policy C automatically terminates when the last sow-litter groups complete test under the old R.O.P. program.

Details of animals placed and of bonus payments are given in the accompanying tables. Also included are comparative prices for breeding stock at the purebred sales and Alberta's position in the overall swine industry with respect to grades, pig numbers and value.

Price Average Covering All Alberta Sales Including (R.O.P.)

	Boars				Sows			
	1967		1968		1967		1968	
Breed	No.	Average Price	No.	Average Price	No.	Average Price	No.	Average Price
Yorkshire	496	137.66	428	116.81	545	125.74	516	106.13
Tamworth	8	125.67	7	97.85				
Landrace	5	110.00	5	76.00	7	102.85	4	53.12
Lacombe	59	148.43	56	140.22	51	135.70	37	113.92
Hampshire							1	200.00
Total and Av.	568	138.37	496	118.77	603	126.32	558	106.43

Price Average for All Swine Breeds at Calgary and Edmonton Sales

	1967		1968	
	No.	Average Price	No.	Average Price
Boars	306	153.27	265	120.33
Sows	405	133.36	408	104.29

Price Average at Camrose R.O.P. Swine Sale

	Boars				Sows			
	1967		1968		1967		1968	
Breed	No.	Price Average	No.	Price Average	No.	Price Average	No.	Price Average
Yorkshire	44	149.43	40	121.50	38	106.71	25	131.80
Lacombe	2	165.00	5	156.00	3	91.66		
Total and Av.	46	154.74	45	125.33	41	105.61	25	131.80

Swine Placed under Livestock Listing Bureau and Improvement Policies A & B

Year	L.L.B. Gilts	L.L.B. Boars	Policy A Boars	Policy B Boars
1964	4	7	93	405
1965	39	19	94	332
1966	2	15	84	347
1967	6	14	84	308
1968		11*	36*	238

*This total includes 24 Yorkshire, 19 Lacombe, 1 Tamworth and 3 Landrace

Record of Performance Sow Bonus Policy

Number of Sows Qualifying for Bonus:

Breed	1964	1965	1966	1967	1968
Yorkshire	54	54	111	150	112
Landrace				5	
Lacombe	18	26	61	25	40
TOTAL	72	80	172	180	152

Alberta Hog Gradings for Years 1964 - 1968

Grade	1964 %	1965 %	1966 %	1967 %	1968 %
A	36.30	40.30	42.80	40.20	43.66
B	45.20	43.00	41.00	42.40	40.95
C	8.20	7.10	6.70	7.60	6.35
Light	2.80	3.20	2.00	2.10	2.50
D	0.70	0.80	0.50	0.60	0.68
Heavy	4.30	3.50	4.50	4.70	3.80
Extra Heavy	1.90	1.50	1.80	1.90	1.48
Ridgling	0.60	0.60	0.60	0.60	0.58
Stags	0.50	0.45	0.40	0.40	0.25
Sows	4.70	4.20	3.60	4.00	3.82

1964, 1965, 1966, 1967 and 1968 grading percentages exclude stags and sows.

Number and Value of Inspected Slaughter Hogs of Alberta Origin

Year	Total Number	Value per Pig	Total Sale Value
1964	1,554,404	37.52	$58,321,238.00
1965	1,634,390	44.44	72,635,358.00
1966	1,350,670	52.73	71,224,204.00
1967	1,562,856	48.76	66,198,759.00
1968	1,696,952	42.62	72,316,158.00

Estimated Number of Swine on Alberta Farms at June, 1964 - 1968 Inclusive

Year	Number
1964	1,370,000
1965	1,245,000
1966	1,208,000
1967	1,254,000
1968	1,245,000

Sheep

The estimated number of sheep on farms in Alberta as of June 1 was down 15 per cent from 1967. Decreases in the sheep population of agricultural reporting areas one, two, three, six and seven ranged between 9 per cent and 13 per cent, areas four and five dropped 30 per cent. Lamb and mutton slaughterings originating in Alberta at 78,000 were down 17 per cent from 1967.

Estimated Number of Sheep in Alberta at June 1, 1968

Year	Number	Per cent Decrease
1964	409,000	3.5%
1965	355,000	13.2%
1966	301,400	15.4%
1967	287,000	4.8%
1968	245,000	14.6%

Overall returns for sheep production were well above average for the 1960's. Of special significance were the high prices reached in May and June when the price held steady at $29.00 per cwt. (Edmonton) for eight weeks and peaked at $35.00 per cwt. for a few days. Prices of 'good' lambs on the Edmonton market dropped to the year's low at $20.46 per cwt. in September. Wool sales were very slow, and world wool prices were depressed.

The large fall sheep sales handled about 7,000 ewes and 13,000 feeder lambs.

Good feeder lambs averaged $25.00 per cwt. and good breeding ewes $15.00 to $25.00 per head — prices substantially above those of 1967. Americans purchased up to two-thirds of the lambs and many of the ewes offered at southern Alberta sales. Canadian out-of-province buyers were also active.

The number of rams sold at approved sales in the province was much less than in 1967 and prices were down. Ram sales in general were slow but the late harvest played particular havoc with organized sales.

Ram Numbers and Prices at Purebred Sheep Sales — North-Central (Edmonton), and Edmonton and Calgary

	1966		1967		1968	
Rams	No.	Av. Price	No.	Av. Price	No.	Av. Price
Suffolk	74	74.90	77	71.00	55	64.00
Hampshire	13	72.04	16	91.00	7	67.50
Border Cheviot	1	50.00				
Corriedale	16	72.81	24	83.00	16	68.45
N.C. Cheviot	13	74.62	19	76.00	22	62.20
Southdown	1	60.00	3	55.00		
Dorset			2	45.00	1	45.00
Oxford	5	67.00				
Romnelet			1	45.00	2	67.50
Columbia					6	82.50
Total & Average	123	73.65	142	75.00	109	65.30

The number of ram applications processed was the lowest it has been for four years for reasons already mentioned.

Applications Processed Under Ram Policies A, B and L.L.B.

	L.L.B.		Policy A	Policy B	Total
Year	Ewes	Rams	Rams	Rams	Rams
1964		3	34	35	72
1965	2	2	36	57	95
1966	134	4	35	51	90
1967	163	5	47	56	108
1968	611	4	32	34	70

The average price of Grade A rams decreased markedly. All rams graded B were unsold but one.

Average Price of "A" and "B" Rams
North-Central (Edmonton), Edmonton and Calgary Sales

Year	"A" Grade Rams No.	"A" Grade Rams Price Average	"B" Grade Rams No.	"B" Grade Rams Price Average
1964	77	60.49	31	49.59
1965	83	70.58	45	59.00
1966	71	83.73	52	62.30
1967	125	77.00	17	62.00
1968	108	65.30	1	60.00

Four applications were approved for federal-provincial sheep freight assistance on a total movement of 660 ewes.

A beginning was made on a shift of emphasis in the record of performance program from general encouragement of record keeping to a supervised system aimed at the seedstock producer. With the imposition of a flock size restriction of 50 minimum ewes, twenty producers were able to enrol.

A monthly publication "Sheep Notes and News" was started to inform new and progressive sheepmen of the latest developments in sheep management.

The First Annual Sheep Symposium was planned for January, 1969, to expose progressive sheep producers to research and industry personnel.

The importation of 200 litter-lambing Finnsheep into Alberta in 1968 should bring 200 per cent lamb crops within the reach of every interested sheepman in the next years.

The first community sheep grazing reserve in Alberta had a successful first year of operation and work is progressing on a second one to be opened in 1969.

An upsurge of interest in sheep production was evident; in fact, there were not sufficient numbers of breeding stock available in the province to meet demand.

FEED RECOMMENDATION SERVICE

During the year, 2,579 feed samples were analyzed for farmers by the Soil and Feed Testing Laboratory and 1,252 feed reports were issued. An additional 240 samples were analyzed on a demonstrative basis for District Agriculturists and Regional Supervisors.

The number of feed samples submitted was 67 per cent greater than 1967. This increase was partly due to abnormal weather conditions in many areas which resulted in considerable variation in the quality of both roughages and grains.

Two hundred and sixty-seven comprehensive feeding recommendations were made. One hundred and ninety-one recommendations were for beef cattle, 34 for dairy cattle and 42 for swine. Comprehensive recommendations were made only in cases where the information forms were completed and samples of all grains and roughages used were submitted.

Feed reports were, in most cases, processed within two weeks of the arrival of the samples at the laboratory. However, some delays were encountered during the fall and winter months due to the move to the new laboratory and the large number of samples which were received at that time.

The complete report of the Soil and Feed Testing Laboratory is included in the report of the Plant Industry Division.

TORONTO ROYAL AGRICULTURAL WINTER FAIR

The 1968 Royal Agricultural Winter Fair was held November 15 to 23. Alberta exhibited eight carloads of market cattle, four of purebred beef cattle, one of dairy cattle, one of horses and one of mixed sheep and swine.

The Alberta Department of Agriculture assisted in the shipment by receiving nominations, co-ordinating selections, assembling and organizing the shipment to Toronto and return via C.N.R. On eligible entries the Canada Department of Agriculture paid 75 per cent of the freight and the Alberta Department of Agriculture 25 per cent as in previous years. Selection was made by appointees of breed associations under the direction of the Livestock Board.

Special Achievements:

- —Warren Smith, Olds — champion carload of steers
- —McIntyre Ranching Co. Ltd., Magrath — reserve champion carload of steers
- —Kallal Hereford Ranch Ltd., Tofield — champion group of five steers
- —Fred Noad, Olds — champion crossbred and reserve champion Angus and reserve champion crossbred steer
- —Tom Hamilton, Innisfail — champion Shorthorn steer
- —Clarence Visser, Edmonton — champion barrow carcass
- —Carl Hanson, Brightview — junior champion Percheron filly
- —Dr. and Mrs. E. A. Slack, Medicine Hat — senior and reserve grand champion Arabian stallion
- —R. D. Lindsay, Claresholm — reserve senior champion Arabian mare

The following table summarizes the prizes won by the Alberta exhibitors.

	Horses	Beef Cattle	Market Cattle	Dairy Cattle	Swine	Sheep and Wool	Totals
Grand champion			1				1
Reserve champion	1		1				2
Champion	1	1	2		1		5
Reserve	1		2				3
1st	4	2	6			1	11
2nd	2	5	5				12
3rd	2	1	3			1	7
4th		5	6				11
Other	7	26	24	10	7	7	81

DAIRY HEIFER CALF POLICY

This policy operated as in previous years. The branch assembled and delivered 76 Holstein heifer calves to nine separate 4-H dairy clubs. This policy will be terminated on July 1, 1969.

HORSES

The horse population in Alberta decreased from 90,000 to 85,000 head according to the June 1 survey. Since 1960 the steady decline in horses has averaged nearly 4 per cent per year. Processing of horse meat has set the minimum price of all animals at five cents per pound. The demand for pregnant mares and heavy horses weakened considerably. Saddle stock were in moderate demand.

The Livestock Branch co-operated with the Olds Agricultural and Vocational College in two horse hoof care courses which were attended by 47 people.

Recording of Brands

Summary of Brand Registrations, Transfers, Renewals and Cancellations

	Cattle	Horses	Sheep	Poultry	Total
New Brands Issued	1441	166	1		1,608
Transfers	369	32			401
Certified Extracts Issued	6				6
Brands Cancelled	360	60			420
Brands Renewed	7083	711		1	7,795
Brands Reissued	75	10			85
Free Issue	2				2
TOTAL	9336	979	1	1	10,317

Number of Brands In Good Standing at December 31, 1968

Cattle	37,934
Horses	4,143
Sheep	22
Poultry	5
Fur Bearing	2
TOTAL	42,106

A total of 2,656 letters were written during 1968 pertaining to work carried on in the Brand Office. In addition, a supplement to the 1966 Brand Book was compiled and published, which contained 3,708 brands allotted and transferred during the period April 19, 1966 to April, 1968.

ALBERTA LIVESTOCK AND LIVESTOCK PRODUCTS ACT

Stockyards and Stockyards Licensing

Three hundred and twenty-two stockyard licenses were issued compared to three hundred and ten in 1967. Classes of yards were divided as follows:

CLASS						
B	C	D	E	F	G	Total
17	32	62	3	2	206	322

A total of 54 Class D stockyards (Auction Markets) were in operation as at December 31. Two yards ceased operations and eight yards changed ownership.

The following table shows the number of livestock sold at Class D stockyards during the years 1964 and 1968:

	1964	1965	1966	1967	1968
Cattle & Calves	470,330	514,327	559,379	604,411	663,676
Hogs	434,328	364,807	331,715	463,783	473,071
Sheep	30,336	32,470	32,375	33,665	28,383
Horses	11,505	7,597	8,725	9,989	10,729

Class E and F stockyards were operated at Pakowki, Park Bend, Walsh, Lea Park and Empress and handled 15,636 head of cattle, compared to 12,459 in 1967.

LIVESTOCK DEALERS AND LIVESTOCK DEALERS AGENTS

Claims were received against one livestock dealer's bond.

Dealers and agents licensed totalled 867 compared to 866 in 1967. A number of trade practice investigations were carried out as a result of complaints from producers, market operators and shippers.

THE STOCK INSPECTION ACT

A total of 2,189,425 head of horses and cattle were inspected through markets and on export. This was an increase of 9 per cent over 1967 and established an all time high.

Inspectors held up proceeds of sales or actual animals for a total of 5,321 head for further investigation of rightful ownership. The proceeds of sales covering 203 head were forwarded to the branch headquarters for further investigation. Of the total held, 125 head of live cattle and the proceeds from the sale of 399 head were returned to the rightful owner other than the shipper and 30 head are still under investigation.

Two hundred and fourteen Butchers and Hide Dealer's licenses were issued, a decrease of six from 1967. Several spot inspections were made of the cattle slaughtered at various plants.

POUNDS

Three new pounds were organized under The Improvement Districts Stray Animals Act, bringing the total number of pounds in improvement districts to 159.

THE HORNED CATTLE PURCHASES ACT

The following table shows the percentage of cattle with horns at the main market centres for the past four years with a base point of 1949:

	1949	1965	1966	1967	1968
Edmonton	19.9	14.4	14.5	14.0	13.7
Calgary	15.6	7.0	7.9	7.1	6.8
Lethbridge		7.0	7.3	7.5	7.6
Medicine Hat		4.1	3.8	3.7	3.9

THE ARTIFICIAL INSEMINATION OF DOMESTIC ANIMALS ACT

Minor amendments were made to this act in 1968. The artificial insemination regulations under the act were rewritten and Alberta Regulation 372/68 replaced Alberta Regulation 50/64.

THE STATUTES REPEAL ACT, 1968

This act repealed the following enactments: The Bull Exchange Act; The Livestock Encouragement Act; The Live Stock Public Markets Act; The Purebred Bulls Purchase Act: The Purebred Sire Area Act.

GENERAL

Regionalization

The three regional livestock supervisors appointed in 1967 with offices at Lethbridge, Fairview and Vermilion, completed their first full year in these new positions. It was not possible to make any appointments to the remaining four regions.

Committees

The following provincial committees, which are advisory to the department, and with which branch personnel are involved, continued to operate: The Alberta Beef Cattle Performance Test Committee; The Alberta Artificial Insemination Advisory Committee; The Alberta R.O.P. Swine Advisory Committee: The Alberta Livestock Board; The Advisory Soil and Feed Testing Committee.

Livestock Extension

The branch worked in co-operation with the Extension and Colleges Division in applying and co-ordinating a livestock extension program throughout the province. In addition to administration of various livestock policies and programs, branch personnel serviced extension meetings, short courses, field days, production schools and livestock shows and sales.

The following summarizes duties performed by branch personnel.

Farm Visits	1451
Meetings and Short Courses	333
Livestock Judging Assignments	19
Culling and/or Purchasing at Sales	90
Stock Yard Visits	351
Radio and T.V. Appearances	57
'Farm Notes' and Other Articles	58

Staff Changes

Numerous staff changes took place during the year.

Retirements: Mr. J. H. Shortt, Brand inspector in charge at Calgary, after 31 years of service; Mr. I. A. Coles, Supervisor of Feeder Associations, after 25 years of service; Mr. John Cuff after 18 years as Brand Office Clerk at the Western Stockyards in Edmonton; Mr. Jack Belzer, Livestock Investigator, after eleven years of service.

Appointments: Mr. A. W. N. Erichsen as Supervisor of Feeder Associations; Mr. K. K. Pfannmuller as Assistant Livestock Supervisor (Swine); Mr. G. R. Johnston as Livestock Investigator; Mr. D. M. Campbell as Brand Inspector at Lloydminster Mr. M. A. Van Cleave as Brand Inspector at Calgary; Messrs. L. Lovig and K. F. Robinson as Deputy Brand Inspectors.

Promotions: Mr. H. M. Link from Supervisor Brand Inspection to Supervisor Regulatory Services; Mr. H. G. Pallister from Brand Inspection Fieldman to Supervisor Brand Inspection.

Employment Terminations: Messrs: E. Weiss and D. Carey from the brand inspection staff.

POULTRY BRANCH

General Review

Commercial egg production in Alberta declined 4.5 per cent from 1967. Low egg prices until mid-July resulted in a 17.1 per cent reduction in chick placements to that date and a 12.7 per cent reduction at the year end. This resulted in considerable imports of quality eggs, primarily from Manitoba. From mid-July to the year end, egg prices advanced to near record levels, resulting in a weighted price for all grades for the year of 30.1c, 5.1c above 1967.

Due to low prices in the first part of the year, a deficiency payment of .4c per dozen was paid for the support year ending September 30.

In September, egg producers voted 62 per cent in favor of an Alberta Egg and Fowl Marketing Board. This board will be operational early in 1969.

All provinces considered the formation of a National Egg Marketing Agency.

Some expansion and automation of production facilities by specialized producers was noted.

Chicken broiler growers again enjoyed a firm market throughout the year. Production was down 6 per cent from the previous year because production had to be held at 80 per cent of the quota for an extended period. Marketing quotas and grower prices were established by the Alberta Broiler Growers' Marketing Board.

Total turkey marketings were comparable to last year, with a decrease in broiler and over 16 lb. weights, and a corresponding increase in the 10 to 16 lb. weight range. Prices were slightly firmer in 1968, due to decreased pressure from the U.S. market. This market could be a problem again in 1969, and producers continued to press the Canadian government for industry protection.

An increasing trend toward corporate control of turkey production was evident.

The Alberta Turkey Growers' Marketing Board established grower marketing quotas and prices.

Egg Marketing At Registered Stations

	Total Eggs 000,000 doz.	Reg. Stations 30 doz. cases	Producer Wt. Price	Layers (DBS)
1964	38.5	486,597	21.8	2,280,000
1965	36.6	468,198	29.8	2,325,000
1966	37.9	475,487	34.0	2,769,000
1967	41.9	522,413	25.0	2,986,000
1968 (est.)	40.3	500,100	30.1	2,690,000

1968 receipts represent an estimated 46 per cent of the production.

Poultry Eviscerated in Registerd Stations (pounds)

Year	Chickens		Fowl	Ducks	Geese
	Under 4 lb.	Over 4 lb.			
1964	21,962,000	1,108,000	2,434,000	19,000	457,000
1965	22,245,000	783,000	2,082,000	3,000	439,000
1966	25,400,000	999,502	2,253,739	1,084	112,000
1967	26,935,000	1,834,000	2,079,000	4,000	436,000
1968 (est.)	25,670,000	745,000	1,615,000	4,000	281,500

Turkeys

Year	Under 10 lb.	10 to 16 lb.	Over 16 lb.	Total
1964	1,223,000	4,022,000	7,332,000	12,577,000
1965	1,455,000	4,418,000	8,383,000	14,256,000
1966	2,197,150	4,420,191	8,620,700	15,238,041
1967	2,666,000	5,090,000	9,780,000	17,536,000
1968 (est.)	2,531,000	5,673,000	9,350,000	17,554,000

LICENSING AND BONDING OF DEALERS IN POULTRY AND POULTRY PRODUCTS

Produce Dealers — The Poultry Branch administers regulations respecting the licensing and bonding of dealers in poultry and poultry products under the Livestock and Livestock Products Act. Every dealer must be licensed. As protection to producers, all wholesale dealers must furnish a surety bond in favor of the Minister ranging from $1,000 to $10,000 depending on the volume of business conducted. Licences were issued as follows.

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Poultry Packing Stations
1964	18	112	19	11	7	15
1965	22	95	14	11	6	21
1966	30	90	14	11	5	22
1967	22	71	14	11	5	15
1968	23	62	14	11	3	22

Hatcheries

The Poultry Branch administers regulations respecting the production and sale of chicks under the Alberta Livestock and Livestock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more are licensed. Since 1951 commercial hatcheries are required to furnish a surety bond, in favor of the Minister, for protection of hatching egg producers, ranging from $2,000 to $5,000 depending on incubator capacity. Hatchery capacity and distribution of chicks and poults were as follows:

Hatchery Capacity

Year	Breeder Hatcheries	Commercial Hatcheries	Setter Capacity	Hatcher Capacity	Total
1964	7	37	3,489,636	—	—
1965	6	33	4,732,920	778,889	5,511,809
1966	6	33	4,721,200	789,544	5,510,744
1967	3	31	4,438,512	769,655	5,208,167
1968	3	32	4,192,797	806,100	4,998,897

Chick Disposition

Year	Hatch-ability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks Remaining in Province
1964	68.7	15,701,591	1,258,299	368,152	481,435	14,556,575
1965	67.4	15,081,002	1,279,299	597,039	617,057	13,821,721
1966	70.4	17,261,381	1,393,803	1,106,546	294,538	15,055,570
1967	70.3	17,168,275	1,625,053	960,943	634,367	15,216,646
1968	68.8	16,706,092	1,546,906	1,308,692	265,127	14,115,621

Chick Production by Type

For Egg Production Type			For Broiler Production Type		
1968	1967	% Change	1968	1967	% Change
4,661,103	5,514,467	—15.5	12,044,989	11,653,803	3.4

Poult Production

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatch-ability	Poults Imported	Poults Exported	Poults on Alberta Farms
1964	2,099,610	463,444	1,136,876	54.1	41,946	48,499	1,130,323
1965	2,095,189	376,753	1,216,805	58.1	96,912	69,387	1,244,330
1966	2,434,267	587,738	1,261,153	51.8	20,250	75,522	1,205,881
1967	2,770,192	195,719	1,486,711	50.1	55,578	74,898	1,467,391
1968	2,414,221	373,232	1,318,929	47.3	8,809	35,188	1,292,550

Importation From The United States

	Chicken				Turkey			
	From Egg Production Matings		From Broiler Production Matings		From Meat Production Matings		From Broiler Production Matings	
	Eggs	Chicks	Eggs	Chicks	Eggs	Poults	Eggs	Poults
Jan.		3,360		19,921	38,961			2,550
Feb.		2,300		18,735	4,800		13,000	
Mar.		5,270		20,538			70,200	
Apr.	23,400	10,622	23,142	14,606	51,423		33,000	
May	4,320	16,875	91,914	12,487	32,502		5,000	
June	720	219		22,433	2,657	243	14,000	231
July	7,200	75		30,566			25,743	2,200
Aug.		1,380		52,687			53,057	
Sept.		771		10,425			2,572	
Oct.		1,929					21,428	1,572
Nov.				10,542			15,974	628
Dec.		4,899		19,188			59,802	2,200
Total	35,640	47,700	115,056	232,128	130,343	243	313,776	9,381

Poult production in Alberta hatcheries in 1968 was 1,318,929 poults, a decrease of 11 per cent from 1967.

Imports of U.S. franchised strains remained fairly static in 1968. These accounted for 81 per cent of the White Leghorn type chicks, 96 per cent of the chicken broiler type chicks, and 85 of the meat type turkey poults.

Flock Approval

The pullorum testing of chicken and turkey flocks supplying hatching eggs continued in 1968. Temporary inspectors were employed from September through December to handle the bulk of this work. The number of females tested for egg replacement purposes declined by 12 per cent in 1968. The number tested for broiler production declined by 16.4 per cent. Testing of turkey females decreased by 17.0 per cent.

All hatching eggs set in licensed hatcheries must be from inspected and pullorum disease free flocks. The following summarizes the number of flocks and birds inspected and tested for pullorum disease.

Flocks and Females Tested
Chickens

Year	Method of Testing	No. of Flocks		No. of Birds	
		Egg	Broiler	Egg	Broiler
1967	Whole Blood	177	196	111,261	179,897
1968	Whole Blood	134	155	97,832	150,323

	Average Size of Flock		% Reaction
1967	628	917	Nil
1968	730	969	Nil

Turkeys

Year	No. of Flocks	No. of Birds	Average Size of Flock
1966	21	52,140	2,482
1967	16	42,009	2,625
1968	16	34,830	2,176

Distribution of Breeds in Hatching Egg Supply Flocks Tested

Year	Broad Breasted Bronze	Large Whites	Small Whites
1966	60.3%	22.9%	9.8%
1967	27.5%	52.0%	20.3%
1968	18.9%	61.6%	19.4%

PROVINCIAL POULTRY PLANT

The nutrition density study commenced in the new facilities in 1967 continued in 1968. This study was set up to assess the performance of laying hens fed rations of varying protein content composed of feed ingredients mainly produced in Alberta.

Test groups were set up at different bird densities in floor pens and in laying cages.

Preliminary results indicate a cost advantage to lower protein levels without sacrificing production. The study will continue a further 8 months at which time a report will be published.

In addition, a random sample broiler feed test was completed and a second started. These tests, operated in consultation with the Canadian Feed Manufacturers' Association, Alberta Division, assess and upgrade the broiler feeding programs of the primary manufacturers in the province.

GENERAL

The following table indicates the number of farm calls and meetings requested and attended by members of the branch.

Farm Calls				Meeting			
1965	1966	1967*	1968	1965	1966	1967*	1968
1,478	1,548	1,225	1,371	39	89	65	129

*One regional office vacant 6 months of 1967 and 5 months of 1968 as no replacement available.

In addition there were 594 calls to allied trade, 278 to surveys and studies and 5 to radio and T.V.

The Poultry Commissioner attended the annual meeting of the Western Canada Produce Association, and he and members of the branch served on committees of various organizations.

Branch programs continued at an accelerated rate. Wider interest was shown in economic studies with participation by an increased number of co-operators. Requests from producer and industry groups resulted in expansion of poultry health programs.

Poultry councils, producer associations and allied trade associations were active throughout the year. The Alberta Hatching Egg Shippers' Association was reactivated with strong membership support.

The 18th Annual Poultry Industry Conference sponsored by the Alberta Poultry Hatchery Association, Veterinary Services Division and Poultry Branch was held in Calgary.

Alberta was host province to the 31st Annual Convention of the Canadian Hatchery Federation held at Banff.

The 54th Annual Provincial Poultry Show was held in Calgary in December. The number and quality of exhibits in almost every class were superior to 1967. The auction of dressed poultry was disappointing due to severe weather conditions curtailing buyer attendance.

The Vermilion-Mannville Turkey Club again held a successful dressed turkey show at its achievement day in December.

Staff Changes

Mr. R. H. McMillan, Poultry Commissioner, was appointed Executive Secretary to the Department of Agriculture. Mr. G. R. Milne, poultry supervisor, succeeded Mr. McMillan. Mr. G. O. Johnson, poultry specialist, Camrose, was promoted to poultry supervisor in the Edmonton office. Mr. D. G. Lofthaug was appointed as poultry specialist in the Fairview office. No replacement has been found for the Camrose office.

AGRICULTURAL ECONOMICS DIVISION

1968

K. ELGAARD, B.A., Assistant Director and Acting Director

Alberta Farm Purchase Board:
  K. G. Taylor, B.Sc., Chairman
  P. D. Stanley, B.Sc., P.Ag., Agricultural Consultant

Farm Management Branch:
  A. R. Jones, B.Sc., M.Sc., P.Ag., Head
  L. Bauer, B.Sc., M.Sc., P.Ag., Assistant Head
  J. G. Gorr, B.Sc., Economic Data Analyst
  B. A. Hackett, B.Sc., Regional Farm Economist, Edmonton
  M. A. Cameron, B.Sc., P.Ag., Regional Farm Economist, Lethbridge
  C. J. Roth, B.Sc., P.Ag., Regional Farm Economist, Calgary
  G. R. Keay, B.Sc., P.Ag., Regional Farm Economist, Fairview
  M. L. Fife, B.Sc., Regional Farm Economist, Red Deer
  C. A. Nelson, B.Sc., M.Sc., Regional Farm Economist, Vermilion

Marketing Branch:
  T. S. Rackham, B.Sc., M.Sc., Head

Production Economics Research Branch:
  B. J. McBain, B.Sc., P.Ag., Head
  K. D. Porter, B.Comm., P.Ag., Assistant Head
  G. B. Parlby, B.Sc., Resource Development Economist
  R. J. Miller, B.Sc., P.Ag., Resource Development Economist
  W. M. Bayda, B.Sc., P.Ag., Agricultural Economist
  H. C. Andersen, B.Sc., Agricultural Economist

Rural Development Research Branch:
  V. T. Janssen, B.Sc., P.Ag., Head
  K. A. Svenson, B.A., Assistant Head
  P. J. Stelmaschuk, B.Sc., M.Ed., Rural Development Specialist
  J. F. Bigam, B.A., Economist
  C. A. Sauve, B.A., M.A., Socioligist
  Statistics Branch:
  T. L. Williams, B.Sc., M.Sc., Head

GENERAL

The role of the Economics Division continued to emphasize three areas of concern: (1) extension advisory assistance to farmers in collaboration with other field staff and specialists in the department; (2) advice and counsel to governmental officials on the economic implications of various existing or proposed policies or programs; and (3) collection, analysis and dissemination of research data necessary to a more thorough understanding of agricultural trends, outlooks, adjustments, and social and economic development.

There is a continuing demand for the services provided by the Economics Division as shown by requests for many types of studies and information. Interest in division programs and projects continues to be exhibited by an increasing number of farmers, commodity groups, agribusiness firms, and professional personnel and officials of various government departments and agencies.

The supply of qualified staff in Canada is still very limited relative to demand resulting in recruitment difficulties for some of the vacancies in the division.

The Director of the Economics Division, Dr. G. R. Purnell, resigned effective September 1 to make the position of Director General, Economics Branch, Canada Department of Agriculture, at Ottawa. K. Elgaard has been Acting Director since September 1. T. L. Williams became Head of the Statistics Branch at the first of the year and resigned in December to pursue educational studies towards a Doctor's degree. L. Bauer continued on educational leave at the University of Oregon and G. B. Parlby and M. A. Cameron commenced educational leave during the year. K. D. Porter returned from educational leave at the University of Idaho. C. A. Nelson came on staff in August from the University of Colorado and will move to Vermilion early in the new year. Four university students were employed during the summer.

A brief outline of the work of the six branches of the Economics Division is presented below.

ALBERTA FARM PURCHASE BOARD

K. G. Taylor is chairman and H. Allam and J. M. Currie are members of the Alberta Farm Purchase Board.

Farm Purchase Credit Act

During the fiscal year of April 1, 1967, to March 31, 1968, the Alberta Farm Purchase Board approved 258 applications, committing a total of $3,522,940 in government loans.

There were 72 advisory committees operating at the end of 1967. The following is a list of the counties, municipal districts and improvement districts which have formed committees up to and including December 31, 1968, along with a list of applications which have been handled by the Alberta Farm Purchase Board since its inception in 1957. The figure in brackets shows the number of applications submitted to the Board for the year 1968 only.

District	Applications Submitted to Board	Approved	Rejected	With-Drawals	Value of Farm Lands	Gov't Loans
Athabasca	74 (2)	53	14	7	606,799.00	362,300.00
Barrhead	118 (4)	83	33	2	1,219,800.00	673,180.00
Beaver	209 (1)	167	37	5	2,183,618.80	1,066,225.44
Bonnyville	163 (5)	131	24	[illegible]	1,307,998.65	779,446.41
Camrose	207 (1)	172	28	7	2,569,565.00	1,335,810.00
Cardston	93 (3)	68	23	2	1,049,785.90	566,668.06
Flagstaff	134 (1)	118	12	4	1,690,825.00	943,925.00
Foothills	48 (1)	38	9	1	708,308.00	350,000.00
Forty Mile	95 (2)	82	12	1	1,257,723.27	737,435.63
Grande Prairie	82 (4)	62	17	3	833,300.00	469,750.00
Kneehill	25 (3)	21	4	—	451,629.00	318,580.00
Lacombe	10 (—)	9	1	—	150,538.00	77,365.00
Lac Ste Anne	29 (—)	15	11	3	136,200.00	64,074.50

District	Applications to Board Sumitted	Approved	Rejected	With-Drawals	Value of Farm Lands	Gov't Loans to Board
Lamont	195 (1)	161	26	8	1,708,290.00	881,001.17
Leduc	184 (1)	171	10	3	2,227,935.00	1,254,590.50
Lethbridge	118 (—)	76	40	2	1,439,810.00	820,637.00
Minburn	134 (1)	97	30	7	1,019,528.65	556,637.50
Mountain View	78 (3)	49	26	3	815,080.00	427,718.00
Newell	22 (3)	17	5	—	290,900.00	187,660.00
Paintearth	182 (5)	165	13	4	1,617,577.27	943,184.07
Peace	3 (—)	2	1	—	29,000.00	14,500.00
Pincher Creek	16 (—)	12	4	—	256,442.00	134,750.00
Ponoka	135 (—)	94	31	10	1,227,550.00	598,895.00
Provost	11 (1)	8	2	1	132,800.00	98,840.00
Red Deer	23 (—)	17	6	—	400,140.00	253,112.00
Rocky View	105 (5)	92	12	1	1,671,762.95	907,217.00
Smoky Lake	— (—)	—	—	—		
Smoky River	101 (6)	80	19	2	889,580.00	546,616.00
Spirit River	3 (3)	2	1	—	45,000.00	36,000.00
Starland	62 (1)	54	7	1	701,472.00	381,395.00
Stettler	54 (1)	43	10	1	728,054.20	436,350.00
Stony Plain	35 (2)	26	8	1	373,500.00	203,108.21
St. Paul	98 (4)	74	20	4	893,665.00	542,025.00
Strathcona	25 (2)	20	5	—	298,950.00	150,207.00
Sturgeon River	74 (1)	48	20	6	755,870.00	420,931.00
Taber	— (—)	—	—	—		
Thorhild	98 (3)	77	18	3	788,560.00	420,860.00
Two Hills	100 (2)	78	18	4	596,400.00	319,400.00
Vermilion River	91 (1)	82	7	2	1,047,592.00	596,736.00
Vulcan	131 (4)	115	13	3	1,802,660.00	972,844.00
Wainwright	55 (—)	42	10	3	637,200.00	381,182.61
Warner	42 (2)	29	10	3	480,469.50	225,924.75
Westlock	303 (10)	222	75	6	2,743,518.50	1,520,413.27
Wetaskiwin	95 (2)	73	20	2	1,084,300.00	646,910.00
Wheatland	30 (—)	27	3	—	463,669.00	249,575.00
Willow Creek	107 (1)	79	24	4	1,421,386.00	770,114.50
Special Area #2	122 (4)	109	9	4	1,158,015.00	635,797.00
Special Area #3	84 (3)	78	6	—	970,760.00	533,400.00
I.D. # 11	92 (4)	65	23	4	1,041,945.20	548,370.00
I.D. # 22	7 (—)	2	4	1	22,400.00	11,200.00
I.D. # 42	— (—)	—	—	—		
I.D. # 58	6 (—)	3	3	—	49,000.00	30,500.00
I.D. # 65	96 (3)	59	30	7	838,620.00	442,741.00
I.D. # 77	3 (—)	3	—	—	52,700.00	31,000.00
I.D. # 78	17 (—)	7	10	—	25,250.00	11,575.00
I.D. # 95	10 (3)	2	7	1	17,000.00	8,500.00
I.D. #101	23 (—)	14	9	—	145,800.00	89,792.00
I.D. #102	65 (5)	35	27	3	181,350.00	92,950.00
I.D. #107	11 (—)	9	2	—	76,000.00	51,590.00
I.D. #108	4 (—)	3	—	1	27,500.00	16,250.00
I.D. #109	3 (—)	3	—	—	25,500.00	12,750.00
I.D. #111	— (—)	—	—	—		
I.D. #124	9 (1)	5	4	—	35,350.00	20,075.00
I.D. #125	20 (2)	13	7	—	94,500.00	46,550.00
I.D. #126	13 (—)	9	3	1	121,500.00	82,650.00
I.D. #131	11 (3)	6	5	—	66,200.00	44,460.00
I.D. #132	27 (3)	16	9	2	200,500.00	128,730.00
I.D. #134	17 (—)	13	3	1	102,000.00	61,000.00
I.D. #138	27 (1)	12	13	2	109,715.00	54,686.00
I.D. #139	11 (1)	5	5	1	73,250.00	53,425.00
I.D. #146	5 (—)	2	3	—	10,000.00	6,150.00
I.D. #147	1 (—)	1	—	—	4,900.00	2,450.00
Totals—72	4681 (125)	3625	901	155	48,204,507.89	26,661,046.62

Of the 3,625 applications approved, 89 applications were approved in 1968, with $1,025,330.13 committed in loans for the twelve month period. Demand for loans continued heavy throughout 1968.

Advisory committees have been formed in all areas of the province with the exception of the Municipal Districts of Acadia and Fairview.

The first loans made under the Farm Purchase Credit Act were made ten years ago. To determine how useful these loans have been to farmers taking advantage of this farm lending program, a survey was initiated in 1968. Preliminary results indicate that the program is assisting a high proportion of young farmers and that farmers participating in the program are making good use of credit. When a detailed analysis is complete the study results will be published.

Farm Home Improvement Act

The Farm Home Improvement Act was passed in 1959. During 1968 one loan was made with a total value of $2,000.

A total of 304 loans valued at $507,724 have been made under this act since inception.

FARM MANAGEMENT BRANCH

Farm Business Analysis Program

About 500 commercial farmers (75 V.L.A.) co-operate in this major program. Farmers furnish the basic physical and financial data from their farm records and the Farm Management Branch analyzes and evaluates the farm business and its various enterprises. This involves on-the-farm follow-up consultations.

Most farm co-operators recognize that the onus for improving their income rests mainly on their shoulders. They seek modern management aids that permit them to make continuing progress. The average achievements of these co-operators in terms of investment and net income are summarized by soil zone in the following table.

Average Investment and Earnings (1967)
of Alberta Farm Business Analysis Groups

Soil Zone	Total Farm Investment	Adjusted Gross Farm Receipts	Gross Operating Revenue	Total Operating Expenses	Net Income
Brown Soil Zone	$137,977	$30,708	$25,789	$14,439	$11,350
Dark Brown Soil Zone — South West Alberta	187,955	40,040	29,526	19,710	9,816
Dark Brown Soil Zone — East Central Alberta	139,518	39,440	27,320	17,343	9,977
Thin Black Soil Zone — South West Alberta	212,895	52,265	32,491	20,418	12,073
Thin Black Soil Zone — East Central Alberta	112,327	30,716	19,308	11,244	8,064
Black Soil Zone	131,384	37,744	24,822	15,322	9,500
Grey Wooded Soils	73,597	18,497	13,809	8,679	5,130
Peace River District	80,257	13,678	12,446	8,841	3,605

A team effort of general extension personnel supported by regional specialists is the combination used to gather the account book information and provide the on-farm follow-up consulting services.

Farm Enterprise Analysis Program

This program is designed to report annually, and in considerable depth, the physical and financial returns and costs incurred by specific types of livestock and crop practices and the major management factors influencing net earnings. This program was developed as a farm supplement to the Farm Business Analysis Program at the request of farm operators. This is the third consecutive year that livestock enterprise analysis has been carried on and the first year for the crop analysis. A summary report is prepared on the results of the analysis for each farm enterprise and "Highlights" leaflets are prepared to summarize the results in short form.

The following table shows the average costs and returns per unit of production for farmers participating in the Livestock Enterprise Analysis Program in 1967 and the average for all farmers participating in the past three years.

Item	Cow-calf[1]		Farrow to Finish Hog[2]		Cattle Feeding[3]	
	1967	Average 3-Year	1967	Average 3-Year	1967	Average 3-Year
Number of Farms	92	95	27	28	36	60
	$	$	$	$	$	$
Gross Return	97.81	93.43	41.40	46.89	25.26	26.95
Feed Cost	62.45	56.37	24.74	23.62	18.31	17.71
Other Variable Costs	8.80	8.76	3.44	2.81	1.67	1.61
Depreciation and Interest	5.48	5.55	2.80	2.70	1.32	1.17
Total Cost (excl. Labour)	91.69	85.20	34.44	32.41	23.81	22.85
Net to Labour and Management	6.12	8.23	6.96	14.48	1.45	4.10
Net to Labour and Management/hr.	.61	.88	2.13	4.53	1.45	3.73

[1] Per cow wintered.

[2] Per hog equivalent produced.

[3] Per 100 pounds of live weight gain.

In general, net earnings per hour to labor and management for the three types of livestock enterprises studied were lower than the three-year average. These lower earnings per unit were due mainly to increased costs per unit and a reduced value of production per unit. The first detailed crop enterprise analysis was completed in 1967 from data contributed from farm co-operators in the Farm Business Analysis Program. Analysis of the crop enterprise is made for each of the eight major soil zones in the province. These analyses include crop acreage distribution, investment, labor utilization, and a costs and returns schedule for each of four major acreage groups. Shown below are the results for the Dark Brown and Thin Black Soil Zones.

Cost and Return per Cultivated Acre

Cultivated Acres	under 480	481-800	801-1120	over 1120
Gross Return	36.34	38.66	34.66	35.58
Direct Cash Costs	6.32	4.84	4.54	4.27
Indirect Cash Costs	3.40	3.42	2.78	3.20
Return over Cash Costs	26.62	30.40	27.34	28.11

As crop production varies considerably from year to year it is planned to continue this type of analysis for a minimum of five years.

Regional Farm Economists

The present policy is to develop a co-ordinated whole-farm approach to extension. As part of this approach the Farm Management Branch now has six regional farm economists in the field. They are responsible for farm management extension and regional economic research and work closely with production specialists and other extension personnel.

Regional farm economists instruct at meetings, workshops, and handle the majority of the interpretations of the farm business analysis and the enterprise analysis programs. The also deal with individual and group economic information requests from extension personnel, farmers and agribusinesses. They assist in father-son arrangements, farm incorporation, farm and consumer credit, machinery trading, purchasing land, fertilizer handling, and crop and livestock clinics. Regional farm economists assist with economic interpretations of programs under the jurisdiction of the Human Resources Development Authority and assist with regional applied research.

In 1969 regional farm economists will be directly involved in the ‘CANFARM Mail-In Accounting System’ and two regional farm economists have received their basic training in this program.

Computer Applications Program

Due to the high interest shown in electronic data processing by many of the branches in the Department of Agriculture, an inventory and feasibility study was undertaken and a report prepared on the potential computer applications for the department over the next five years. This study indicates that the department will have approximately 36 man-years of systems and computer program work during this period. The report was presented to the Executive Committee and the formation of a data programming unit within the department was approved.

During the early part of the year a computer program for analyzing soil test data was completed and satisfactorily tested and fertilizer recommendations made for 16,000 soil samples. In addition, approximately 34,000 soil samples taken during the years 1962-67 (back data) were processed and the data accumulated in the Soil Analysis Data Bank.

Application forms, farm appraisal, field inspection and notices of change associated with the implementation of legislation concerning loan guarantees for land improvements were developed. The designing of these forms was requested by the Land Conservation and Utilization Branch so that loan applications could be processed by computer methods. The designing of the forms was a major undertaking due to the type of information required for follow-up and evaluation.

Other Research and Extension Programs

The Farm Management Branch considered the development of arrangements with private agricultural consulting firms and with municipal districts for new methods of providing expanded farm management extension services.

The branch was involved in developing a prepaid veterinary service plan.

A study was made of how costs and returns are affected by cropping intensity. Data for the Thin Black Soil Zone was used and the results given below are for an average of three years, 1965, 1966 and 1967.

	High Cropping Intensity	Medium Cropping Intensity	Low Cropping Intensity
No. of farms	27	27	27
Per cent of cultivated acres cropped	94.5	77.4	66.7
Variable costs per cult. acre	10.63	7.04	7.07
Labor costs per cult. acre	3.71	2.79	2.71
Overhead costs per cult. acre	17.25	14.56	13.18
All costs per cult. acre	31.59	24.39	22.96
Gross revenue per cult. acre	35.17	29.85	30.33
Net income per cult. acre	3.58	5.46	7.37

As indicated in the table, net returns per cultivated acre were much higher when one-third of the acreage was summerfallowed as compared to only 5 per cent. Similar results have been obtained in other studies and it is planned to continue this study for two more years.

A study was undertaken to determine the dollar investment required in various farm enterprises to provide one dollar of gross income and the corresponding amount of net income. Data for the Black Soil Zone for the three-year period 1965-67 was used in the study. The results are shown below.

Type of Farm	Investment	Gross	Net
Dairy	$4.50	$1.00	$ .44
Cow-Calf and Feeder	4.61	1.00	.45
Hogs	3.56	1.00	.44
Diversified	5.20	1.00	.45
Crops	4.46	1.00	.40

New Publications

To meet the expressed needs of extension personnel and the farm population the following new publications were prepared and released:

"How to Complete the Prairie Provinces Farm Account Book"

"How to Transfer Farm Account Book Information for a Farm Business Analysis"

"How to Analyze the Farm Business"

"Prairie Provinces Farm Account Book (Columnar Type)"

"The Cattle Feeder and the Futures Market"

"Managing Our Future"

"Alberta Farm Management School"

"Alberta Crop Enterprise Analysis"

"Consumer Credit"

"Economics of Silage Production"

In addition, the "Annual Farm Business Report" for eight soil zones and separate annual enterprise reports for crops, cow-calf, beef feeder and hogs were completed and released. Highlight leaflets were also released for each of these major publications.

Statistical Summary

Farm Management Meetings	334
Consultations (office or farm)	1,459
Letters from Farmers Answered	1,962
Radio and TV Appearances	20
Phone calls received	6,738
New publications released	10

MARKETING BRANCH

The Assistant Head position remained vacant throughout 1968 and this limited planned program expansion. The program of this branch centres on marketing outlook, marketing extension and marketing research. Ancillary activities are agricultural economics policy, economic development and assessment of public affairs issues relevant to the agricultural marketing sector.

The agricultural outlook function of the branch was maintained through 1968 by four quarterly issues of the "Alberta Farm Economist". This publication has earned favorable comment and gained circulation, but as yet is reaching only 10 per cent of the 60,000 farmers resident in Alberta. The current background material for outlook work has been expanded much during the year but requires further consolidation and the development of a full range of economic indicators. District agriculturists have requested more frequent publication or reporting of situation and outlook details to their offices.

During February and March 1968, outlook discussions were included with marketing presentations at a number of extension workshops, but the time of year and limited content possible in such meetings is not favorable. Regional public meetings have been proposed and December trials of such meetings in the Peace River area have had good results.

Marketing extension services have been requested infrequently during 1968. A survey of district agriculturists by mail indicated substantial need for extension education in marketing affairs but subjects in this field received low priority in extension workshops and county programs. Yet farmer and agribusiness interest in marketing subjects seemed to be very high. The controversial aspects involved suggest that marketing work should be expanded greatly.

The branch head was involved in a number of public meetings discussing Hog Marketing Board issues during March 1968. At various centres in the province subjects such as cattle futures and marketing analysis were discussed at farmers' meetings.

The marketing education aspect of branch activity was limited to inservice seminars with departmental staff at Lethbridge, Calgary and Edmonton. Some interest-stimulating and promotional meetings with leadership groups in the Peace River area uncovered general interest in "grass roots" study of marketing sturctures and problems.

The Marketing Branch did not undertake substantial research during the year. A number of proposals regarding vegetable marketing, honey marketing and other research questions had to be shelved due to staff limitations. Yet some research incidental to outlook projections was necessary. Survey and analysis of marketing needs covering the Extension Service staff was completed to provide a guide to marketing program development. Study and evaluation of the turkey marketing environment was undertaken to elaborate the considerations of the Marketing Council relative to requests of the Turkey Marketing Board. Relative to the division's function in economic development the branch head undertook an appraisal of the feasibility of enterprises for which the Southern Alberta Federation of Indian Co-operatives was seeking financial backing from the Alberta Government.

The branch head served as an economics instructor for the orientation program of CUSO volunteers in Ottawa.

PRODUCTION ECONOMICS RESEARCH BRANCH

Farm cost of production research, resource development research and other research services are the major functions of this branch. During 1968 reports were published on fluid milk production, sugar beet production, the fresh vegetable industry, land development in northern Alberta, land drainage, water storage and diversion, and recreation. The following includes summaries of the major projects underway in 1968 in each of the three programs.

Farm Cost of Production Research Program

Dairy cost studies have been conducted continuously in the last 28 years. The report on the costs of milk production for 1967-68 will be completed early in the new year. The following table shows some trends in the dairying industry.

Trends in Average Size of Milking Herd and Receipts and Costs per Cow from Milk Produced in the Edmonton and Calgary Fluid Milk Sheds 1954-1967

	Edmonton			Calgary		
Year	Receipts $	Costs $	Milk Cows (number)	Receipts $	Costs $	Milk Cows (number)
1954-55	405.99	347.65	27.9	370.76	313.01	32.9
1955-56	399.97	368.94	29.0	376.36	324.65	34.8
1956-57	402.05	359.36	28.1	394.70	337.08	34.7
1957-58	496.67	398.50	28.1	419.43	352.77	36.0
1958-59	488.22	401.28	29.9	456.71	385.07	33.5
1959-60	481.28	375.70	32.2	469.22	396.61	35.8
1960-61	516.07	404.01	33.9	451.88	410.33	38.5
1961-62	515.22	453.96	35.9	461.21	433.78	40.1
1962-63	517.61	433.60	36.9	495.12	457.22	42.2
1963-64	536.49	465.82	38.2	529.26	460.97	41.0
1964-65	513.67	463.31	39.7	551.98	502.23	42.2
1965-66	491.59	467.61	41.7	531.30	487.20	47.6
1966-67	579.90	519.55	38.1	562.32	465.30	50.5
1967-68	651.04	535.67	36.4	650.10	492.02	50.6

The Fresh Vegetable Feasibility Study, undertaken jointly by the Economics Division, the Plant Industry Division and the Alberta Bureau of Statistics as an ARDA project, was published in 1968 after two years of study. It dealt with the economic feasibility of production, storage, packing, transportation and sale of Alberta fresh vegetables. Cost comparisons with other areas of supply showed a favorable economic basis for potential expansion of Alberta production and market area in some major vegetables. The following table shows the possibilities for future market growth.

Projected Potential Market for Alberta Fresh Vegetables in the Three Western Provinces[1]

Vegetable	1966 tons	1971 tons	1976 tons	1981 tons
Asparagus	52	58	65	74
Beets	1,928	2,171	2,450	2,762
Cabbage	6,313	7,075	7,952	8,964
Carrots	18,800	20,967	23,486	26,523
Cauliflower	525	580	644	720
Celery	1,097	1,195	1,310	1,451
Corn (Sweet)	4,430	4,913	5,472	6,134
Cucumbers	712	802	903	1,017
Lettuce	2,530	2,799	3,110	3,485
Onions	14,406	16,113	18,095	20,481
Parsnips	283	320	362	413
Potatoes	174,326	195,552	220,112	249,190
Radishes	348	387	434	487
Tomatoes	5,557	6,186	6,918	7,811
Turnips (Rutabagas)	7,582	8,503	9,571	10,842
	238,889	267,621	300,884	340,354

[1] Based on Alberta On-Season Percentage Carlot Unloads X Per Capita Disappearance.

The three-year Sugar Beet Study was concluded during 1968. This study was initiated in 1966 at the request of the Alberta Sugar Beet Growers Association. The final year of study will include an analysis of the total farm business and a detailed cost of production study of the sugar beet enterprise. An interim report covering the results of the 1967 study was released in 1968.

Resource Development Research Program

The Land Levelling Study, initiated about three years ago, was continued to determine the economic feasibility of land levelling in relation to the alternatives of gravity irrigation on land not levelled or sprinkler irrigated. A final report was prepared based on three years of study. In general, the report concluded that land levelling was economically sound.

A study was conducted in the Fort Vermilion and La Crete area to describe the type of agriculture and the characteristics of the farm population in the area and to determine the economic feasibility of, and the need for, opening additional public lands for settlement in the area. A report based upon information obtained from 58 farmer co-operators was prepared and submitted to the Lands Branch, Alberta Department of Lands and Forests, for their consideration. Some of the main conclusions were: (1) There is considerable actual and potential demand for additional agricultural land in the area. (2) Many farm operations in the area are marginal and farm incomes are frequently supplement by non-farm employment. (3) Preliminary benefit cost analysis indicates that the cost of development would be offset by benefits in a 30-year period.

A literature review was made of the economic and physical aspects of pasture development and improvement. A report summarizing each title was prepared for the Alberta Agricultural Co-ordinating Committee.

Further study on the subject is being considered. Preliminary work was completed on establishing an equitable rental system in the disposition of Crown land and the cultivation lease program of the Alberta Department of Lands and Forests.

Preliminary investigations were undertaken to revise the system of Crown land valuation for agricultural purposes to reflect as accurately as possible current market value of both arable and non-arable Crown lands throughout the province.

Work continued in collecting information on damages from recurring floods. Similiarly, inspection is made of land with drainage potential for added agricultural use. Reports are published whenever there is a specific request for a cost-benefit analysis for some particular project.

A request was made by the Water Resources Division for additional work on the evaluation of the High Prairie Drainage Project. This work was completed and a preliminary report submitted to the ARDA Advisory Committee.

A progress report was issued on water usage arising from the proposed development in the Red Deer River Basin. Direct costs and benefits were assessed with regard to recreation, flood protection, domestic water, irrigation, stock water and industrial uses. The report was presented to the Water Resources Division as an aid in planning for development. A preliminary report was also made available which shows the results of research conducted with respect to cottage owners and day users at four Central Alberta lakes.

Other Research Services Program

A variety of research projects were conducted at the request of other branches in the department. There was a great amount of interest among farmers for additional income tax information. Requests for meetings on this topic have been numerous. Papers on "Farm Accounts and Income Tax" and "Farm Success as Indicated by Income Tax Paid" were prepared to assist extension in this field.

The Plant Industry Division requested a study on the cost of using a steel structure for seed cleaning plants as an alternative to the wooden structures now used. A report was prepared and submitted to the Plant Industry Division.

At the request of the Executive Committee, costs were budgeted for holding the Annual Departmental Conference in different locations in the province. The results of this evaluation were made available to the Executive Committee.

RURAL DEVELOPMENT RESEARCH BRANCH

The Rural Development Research Branch completed socio-economic investigations in Northern Alberta. In addition the branch accelerated activities in feasibility studies, extension, and participated in program development of Indian projects.

The branch was transferred jurisdictionally to the Human Resources Development Authority as of October 1, 1968. Administratively, the branch will remain with the Department of Agriculture for the forseeable future.

Rural Development Areas Program

In Census Division 14, two projects were initiated under the continuing research section of the MINI Plan. A four-year evaluation was initiated of the ARDA program in this region. The second project was an evaluation of the Peers Co-operative Elevator. Results of this study indicated that the grain operation was marginal and that the other alternatives considered were not economically feasible at this time.

Investigations conducted in C.D. 12 were completed with the publication of "The B-12 Plan". This document contains an inventory and analysis of projections for the future. Components of an adjustment program were identified along with the anticipated costs of each and the projected shifts in the pattern of employment.

The socio-economic study of C.D. 15 continued with emphasis on the Lesser Slave Lake region. Activities were closely co-ordinated with the Regional Resource Co-ordinator and with numerous public and private agencies both in the field and at headquarters. Publications include the following:

1. Population Characterisics of Census Division 15
2. Industry and Resources of Census Division 15
3. An Analysis of Resources of the Lesser Slave Lake Area

4. Theoretical Considerations for the Socio-Economic Development Among Native People
5. Agriculture in Census Division 15
6. Resources of the Little Buffalo Area

Special studies completed during the year for C.D. 15 included:

1. Feasibility of extending the railroad from Fox Creek to Valleyview.
2. Terminal elevator feasibility study for the Peace River area.
3. A cursory appraisal of agricultural development in I.D. 147.
4. A cursory appraisal of agricultural development in M.D. 130.

Native People's Program

The branch head was appointed as liaison officer between the government and the Federation of Southern Alberta Indian Co-operatives and in this capacity was instrumental in arranging finances for the Co-operatives through a program of partially guaranteed loans. Implementation of several programs on Indian Reserves was facilitated by bridging the communication gap between the Indians and other agencies.

The establishment of socio-economic benchmarks was undertaken in connection with the evaluation of the land clearing project at Saddle Lake Indian Reserve. While changes attributable to the project may not be determined for a number of years, it has been deduced that the Indians involved in the project are essentially of similar socio-economic characteristics to those not working on the enterprise. Over time, measurements will be taken of socio-economic differences between those engaged in the project to the non-workers as well as the changes of incomes and savings during the period under review. A resume of credit applicable to Indian Reserves and Metis Colonies was completed.

STATISTICS BRANCH

The principal functions of the Statistics Branch are fourfold: (1) to serve as liaison between the Alberta Department of Agriculture and the Dominion Bureau of Statistics; (2) to make available statistics of agriculture as required by departmental personnel and the public; (3) to be responsible for the Alberta crop reporting service, and (4) to advise on statistical methodology and use.

Federal-Provincial Agricultural Statistics Conference

The theme of the 1968 Conference centred around the current and future direction of statistical programs in the provinces. There seemed to be a general realization that if continued progress is to be made in the field of agricultural statistics more provincial involvement will be necessary. All the provinces seem willing to participate to a greater extent than in the past in providing resources for agricultural statistical programs.

Intercensal estimating for crops and livestock has continually improved since the 1951 census. Estimates are particularly good for most crops and reasonbly good for livestock; poultry estimates have the most room for improvement.

Major changes for the 1971 census include more direct integration of population and housing information with information obtained from the agricultural census.

Crop Reporting Program

Crop reports were issued biweekly during the growing season and crop summaries issued to the press on alternate weeks. Information on crop conditions was telegraphed to the Dominion Bureau of Statistics for inclusion in their telegraphic crop reports.

The 1968 crop year was probably one of the most unpredictable and frustrating on record. Seeding operations began earlier than normal but dry weather coupled with high winds delayed seeding as farmers waited for moisture to ensure germination. Dry weather persisted until the end of July in all areas of the province except the extreme south and Peace River regions. Good general rains in August brought the crops along rapidly so that prospects were for an above average crop. Rain and some snow during the month of September and the first part of October lowered grades, reduced yields and made it very difficult to complete the harvest. By mid-November 85 to 90 per cent of the crops had been harvested but snow in the Peace River block and unfavorable weather elsewhere made it impossible to continue the harvest. The remaining unharvested crops may be picked up in the spring. In spite of very unfavorable harvest conditions yields were above average in most areas of the province. Grades were good in the south but relatively poor elsewhere. A large quantity of grain was harvested in damp or tough condition.

Special Surveys Program

For the fifth year the Statistics Branch was responsible for estimating vegetable and potato production. In 1968 potato acreage increased due to a relatively favorable market outlook; yields were good and quality high. Vegetable acreage increased after having declined the previous year.

The Statistics Branch assisted the Dominion Bureau of Statistics with two cattle-on-feed surveys during the year. Estimates of cattle on feed employed new stratified sampling techniques tested for the first time in Alberta. Results of the surveys indicate that numbers of cattle on feed can be estimated accurately employing this method. Cattle-on-feed estimates are now considered as permanent surveys for the province of Alberta. It is hoped to expand this project nationally and to a quarterly basis.

Forage seed estimates were attempted in 1966 and 1967 by the mail-in questionnaire type of survey. Lack of success of this project was due to inadequate response by farmers and obvious inaccuracies in information obtained. As a result of these difficulties a new method of estimating forage seed production was tested in the Peace River district of Alberta in 1968. The Peace River district accounts for about 80 per cent of total provincial production. The results of this new survey will be available in 1969.

Publications

The 1965-66 edition of "Statistics of Agriculture for Alberta" was printed early in 1968. "A Historical Series of Agricultural Statistics for Alberta" was completed and sent to the Queen's Printer. This volume contains statistics on all phases of agriculture as far back as statistics for the province are available in comparable form. Work began on the publication early in 1966 and has continued to the present time. The 1966-67 edition of "Statistics of Agriculture for Alberta" was also completed in 1968 and sent to the Queen's Printer. A large quantity of material from the 1966 Census of Agriculture was summarized in 1968 and prepared for distribution.

REPORT OF THE EXTENSION AND COLLEGES DIVISION

Headquarters Personnel

S. S. GRAHAM, B.Sc., P.Ag., Director, Extension & Colleges Division
L. W. RASMUSSON, B.S.A., M.Ed., P.Ag., Associate Director
C. A. CHESHIRE, B.E., P.Ag., Head, District Agriculturist Branch
G. L. GODEL, B.S.A., M.Sc., P.Ag., Extension Research Officer

Home Economics Branch

Mrs. V. G. MACDONALD, B.Sc., Head
Mrs. MONA COX, B.Sc., Associate Head
Miss PATRICIA MASCALUK, B.Sc., Home Management Specialist
Mrs. DONNA BAGDAN, B.I.D., Home Design Specialist
Miss ALVINA BERG, B.Sc., R.P.Dt., Food & Nutrition Specialist
Mrs. MARILYN HEMSING, B.Sc., Clothing Specialist
Mrs. SHIRLEY REBUS, B.Sc., Assistant District Home Economist, Edmonton-Morinville

Agricultural Engineering Branch

J. L. REID, B.S.A., M.Sc., P.Ag., Head

Information Branch

WARREN W. WISMER, B.S.A., M.S., Head
JOHN ANDREW, B.Sc., Supervisor, Radio and Television
Miss DIANA RODNEY, B.A., Agricultural Information Officer
JACK ART, B.S.A., M.A., P.Ag., Research Information Officer
Mrs. LINDA PICKELL, B.H.Ec., Products Promotion Officer
BURHAN AYANOGLU, Artist
N. A. DONALD POTTER, B.Sc., Commentator
CLYDE C. McMURCHY, Agricultural Weather Forecaster

Publications & Visual Aids

J. M. FONTAINE, B.Sc., P.Ag., Supervisor

Leadership Training

W. R. MEEKS, B.A., Supervisor
PETER HLUSHKO, B.S.A., B.Ed., P.Ag., Supervisor

District Offices and Personnel

Office and Agriculturist	**Home Economist**
Athabasca	
R. L. Winchell, B.Sc.	Miss Sandra Hammer, B.Sc.
Barrhead	
W. C. Yule, B.Sc.	
Bonnyville	
D. L. Simpson, B.S.A.	
Brooks	
I. Lapp, B.Sc., P.Ag.	Mrs. Norma Jean Gray, B.Sc.
Calgary	
H. M. Douglas, B.Sc., P.Ag. Regional Agriculturist	Miss Donna Kureluk, B.Sc. Mrs. Irene Leavitt, B.Sc.
Al Reimer, B.S.A., P.Ag. District Agriculturist	Mrs. Edna Clarke, B.Sc. Home Management Specialist
Paul Hodgman, B.Sc. (Assistant)	Mrs. Dianne Cleare, B.I.D. Home Design Specialist
G. W. Law, B.Sc., P.Ag. Regional Extension Engineer	
Camrose	
L. D. Williams, B.Sc., P.Ag.	Miss Jean Berry, B.Sc.
Cardston	
D. L. Steed, B.Sc., P.Ag.	
R. S. Lyons, B.Sc. (Assistant)	
Claresholm	
J. D. Jantzie, B.Sc., P.Ag.	Miss Eileen Sullivan, B.Sc.
D. Fulton, B.S.A. (Assistant)	
Coronation	
E. K. Nimitz, B.Sc.	
Drumheller	
S. W. Pettem, B.S.A., P.Ag.	
Edmonton, South	
H. J. Fulcher, B.Sc., P.Ag. Regional Agriculturist	Mrs. M. Jubenville, B.Sc.
D. J. Christiansen, B.Sc., District Agriculturist	
Evansburg	
G. W. Miller, B.Sc.	
Fairview	
W. L. McNary, B.Sc., P.Ag. Regional Agriculturist	Miss Carole Ross, B.Sc.
W. L. Cody, B.S.A., P.Ag. District Agriculturist	
Foremost	
W. D. Jensen, B.Sc.	
Fort Vermilion	
M. Rudakewich, B.Sc.	

Grande Prairie	N. G. Miller, B.Sc., P.Ag. A. Protz, B.S.A., B.E., P.Ag. P. Eng. Regional Extension Engineer	D.H.E. to be appointed
Hanna	W. S. Morrison, B.Sc., P. Ag. (temporary)	Miss Elaine Rodseth, B.Sc.
High Prairie	T. T. Newcombe, B.Sc.	Mrs. Linda MacPhee, B.Sc.
High River	D. R. Macpherson, B.Sc., P.Ag.	
Lac La Biche	H. L. Yoder, B.S.	
Lacombe	A. J. Wiebe, B.S.A. (Temporary)	Mrs. Helen Moore, B.H.Ec.
Lamont	G. W. Shewchuk, B.Sc., P.Ag.	
Leduc	M. S. Kuryvial, B.Sc., P.Ag., M.Sc.	
Lethbridge	J. G. Calpas, B.Sc., M.Ed., P.Ag. Regional Agriculturist C. S. Brandley, B.A., LL.B. (temporary) District Agriculturist D. E. Darby, B.E., M.Sc., P.Ag., P. Eng., Regional Extension Engineer	Miss Elizabeth Bartman, B.S.
Manning	L. R. Heppner, B.S.	
Medicine Hat	J. L. Anderson, B.Sc., P.Ag. W. S. Kowalenko, B.S.A. (Assistant)	Miss Sheila Hunter, B.Sc.
Morinville	R. J. Bunnage, B.Sc.	Mrs. Patricia Prymak, B.Sc.
Olds	L. J. Welsh, B.Sc., P.Ag.	Mrs. Joyce Brown, B.Sc.
Peace River	G. R. McNaughton, B.Sc., P.Ag.	
Ponoka	C. C. Robinson, B.Sc., P.Ag.	
Provost	R. F. Berkan, B.S.A.	
Red Deer	R. D. Price, B.Sc., P.Ag. Regional Agriculturist C. J. Mills, B.Sc. District Agriculturist B. S. West, B.Sc. Regional Extension Engineer	Miss Jeanette Auvigne, B.Sc. Mrs. Donna Carlyle, B.Sc.
Rocky Mountain House	F. H. Schulz, B.Sc.	
Ryley	R. J. Park, B.Sc.	
Sangudo	P. M. Thomas, B.Sc.	

Sedgewick	
W. Heggelund, B.Sc., (temporary)	
Smoky Lake	
A. J. Charnetski, B.Sc., P.Ag. (temporary)	
Spirit River	
D. G. Dowswell, B.Sc.	
St. Paul	
D. M. Lefsrud, B.Sc.	Miss Suzanne Laird, B.Sc.
Stettler	
E. W. Walker, B.Sc., P.Ag.	Miss Joan Laycock, B.Sc.
A. D. MacKenzie, B.S. (Assistant)	
Stony Plain	
E. C. Lowe, B.Sc.	
D. R. Carlson, B.Sc. (Assistant)	
Strathmore	
A. E. Edwards, B.Sc., P.Ag.	
Taber	
A. J. Arthur, B.S.A. (Assistant)	
Thorhild	
A. F. Tilma, B.Sc.	
Three Hills	
D. I. Peters, B.Sc., M.Ed., P.Ag.	Miss Catherine Young, B.Sc.
Two Hills	
W. J. Dent, B.Sc., M.Sc., P.Ag.	
A. Lozeron, B.Sc. (Assistant)	Miss Iva Bradley, B.Sc.
Vegreville	
N. A. Chomik, B.Sc., P.Ag.	Mrs. Elizabeth Durie, B.Sc.
Vermilion	
J. S. Duncan, B.Sc., P.Ag. Regional Agriculturist	Mrs. Sharon Stredwick, B.Sc.
D. E. Berdine, B.Sc., P.Ag. District Agriculturist	
R. Constable, B.Sc. Regional Extension Engineer	
Vulcan	
B. R. Shaw, B.Sc., P.Ag.	Miss Frances Cullen, B.Sc.
Wainwright	
N. O. Wohlberg, B.S.A., B.A., P.Ag.	Miss Janet MacKay, B.Sc.
Westlock	
W. A. Ross, B.Sc., P.Ag.	Miss Evelyn Gusdal, B.H.Ec.
Wetaskiwin	
W. C. Proctor, B.Sc., M.Sc., P.Ag.	D.H.E. to be appointed

Promotions and Transfers

D. E. Berdine —Agrologist II, St. Paul to Agrologist II, Vermilion.
L. K. Bond —Agrologist I, to Agrologist II, Lethbridge.
R. J. Bunnage —Agrologist I, Stony Plain to Agrologist II, Morinville.
J. G. Calpas —Agrologist III, Taber to Regional Agriculturist, Lethbridge.
C. A. Cheshire —Supervisor of District Agriculturists to Head, District Agriculturist Branch.
D. J. Christiansen —Agrologist II, Smoky Lake to Agrologist II, Edmonton.
Mrs. M. Cox —Clothing Specialist to Associate Head, Home Economics Branch.

H. M. Douglas	—Regional Agriculturist, Lethbridge, to Regional Agriculturist, Calgary.
D. G. Dowswell	—Agrologist I, Lacombe to Agrologist II, Spirit River.
G. M. Gillund	—Agrologist I, Stony Plain to Agrologist II, Evansburg, to Regional Resource Co-ordinator in training, Edson.
G. L. Godel	—Supervisor of District Agriculturist to Extension Research Officer.
Mrs. Marilyn Hemsing	—District Home Economist, Morinville to Clothing Specialist, Home Economics Branch.
L. R. Heppner	—Agrologist I, Peace River to Agrologist I, Manning.
D. M. Lefsrud	—Agrologist, I Stony Plain to Agrologist I, Camrose to Agrologist I, St. Paul.
A. Lozeron	—Agrologist I, Camrose to Agrologist I, Sedgewick to Agrologist I, Two Hills.
D. R. Macpherson	—Agrologist II, Hanna to Agrologist II, High River.
Mrs. B. McCutcheon	—District Home Economist, Westlock to District Home Economist, Smoky Lake.
W. L. McNary	—Agrologist III, Lacombe to Regional Agriculturist, Fairview.
G. W. Miller	—Agrologist I, Two Hills to Agrologist II, Evansburg.
C. J. Mills	—Agrologist I, to Agrologist II, Red Deer.
E. K. Nimitz	—Agrologist I, Medicine Hat to Agrologist II, Coronation.
L. W. Rasmusson	—Supervisor of District Agriculturists to Associate Director.
Al Reimer	—Agrologist I, to Agrologist II, Calgary.
P. M. Thomas	—Agrologist I, Taber to Agrologist II, Sangudo.
A. F. Tilma	—Agrologist I, Edmonton to Agrologist II, Thorhild.
B. S. West	—Assistant Extension Engineer, to Regional Extension Engineer, Red Deer.
H. L. Yoder	—Agrologist I, Grande Prairie to Agrologist I, Lac La Biche.

Appointments

A. J. Arthur	—Agrologist I, Taber.
Miss Jeanette Auvigne	—District Home Economist, Red Deer (temporary).
O. Beever	—Agrologist I, Cardston.
Miss Alvina Berg	—Food and Nutrition Specialist
Miss Jean Berry	—District Home Economist, Calgary.
M. L. Bjorge	—Agrologist I, Ponoka.
C. S. Brandley	—Arologist II, Lethbridge (temporary).
R. J. Bunnage	—Agrologist I, Stony Plain.
D. R. Carlson	—Agrologist I, Stony Plain.
A. J. Charnetski	—Agrologist II, Smoky Lake (temporary).
G. W. Frances	—Agrologist I, Wetaskiwin.
D. T. Fulton	—Agrologist I, Claresholm.
F. S. Goddard	—Agrologist II, Sedgewick (temporary).
Miss Evelyn Gusdal	—District Home Economist, Westlock.
W. Heggelund	—Agrologist I, Spirit River and Sedgewick (temporary).
L. R. Heppner	—Agrologist I, Peace River.
P. G. Hodgman	—Agrologist I, Calgary.
Miss Sheila Hunter	—District Home Economist, Medicine Hat.
W. S. Kowalenko	—Agrologist I, Medicine Hat.
Miss Donna Kureluk	—District Home Economist, Calgary (temporary).
R. S. Lyons	—Agrologist I, Cardston.
A. D. MacKenzie	—Agrologist I, Stettler.
C. C. McMurchy	—Agricultural Weather Forecaster.
G. W. Miller	—Agrologist I, Two Hills.

W. S. Morrison —Agrologist II, High River and Hanna (temporary).
J. M. Proctor —Agrologist I, Barrhead.
Mrs. Patricia Prymak —District Home Economist, Morinville.
Miss Elaine Rodseth —District Home Economist, Hanna.
Miss Carole Ross —District Home Economist, Fairview.
Miss Joyce Sirski —District Home Economist, Peace River.
Mrs. Sharon Stredwick —District Home Economist, Vermilion.
Miss Eileen Sullivan —District Home Economist, Claresholm.
B. J. Whitbread —Agrologist II, Morinville (temporary).
A. J. Wiebe —Agrologist II, Lacombe (temporary).
H. L. Yoder —Agrologist I, Grande Prairie.
D. Zukerman —Agrologist I, Lacombe.

Resignations

Mrs. Marion Atkinson —Associate Head, Home Economics Branch.
O. Beever —Agrologist I, Cardston.
Miss Irene Eby —District Home Economist, Camrose
Miss Janet Good —District Home Economist, Fairview.
Miss L. McKinlay —District Home Economist, Wetaskiwin.
Miss Pat Peters —District Home Economist, Claresholm.
Miss Iris Semeniuk —District Home Economist, Grande Praire.
Miss Chrissie Shunter —District Home Economist, Medicine Hat.
Miss Susan Wirick —District Home Economist, Hanna.
A. J. Wiebe —Agrologist II, Lac La Biche.

Retirement

Peter Jamieson —Regional Agriculturist, Calgary.

Deceased

Fred Strashok —Agrologist II, Thorhild.

Part Time Assistant

R. V. Archibald —Instructor, Rural Welding Clinic.
J. D. Cassidy —Summer Ass't. District Agriculturist, Westlock.
H. W. Clarke —Instructor, Evening Welding School.
J. Cunningham —Summer Ass't. Dist. Agriculturist, Lethbridge.
J. Duckworth —Instructor, Evening Welding School.
S. Edwards —Instructor, Rural Welding Clinic.
W. Ganske —Instructor, Tractor Maintenance School.
L. Giebelhaus —Summer Ass't. Dist. Agriculturist, Vegreville.
R. Hughes —Summer Ass't. Dist. Agriculturist, Red Deer.
G. Keddie —Summer Ass't. Dist. Agriculturist, High Prairie.
J. L. Marr —Instructor, Evening Welding School.
B. Perkins —Summer Ass't. Dist. Agriculturist, Leduc.
V. W. Riggs —Instructor, Evening Welding School.
T. Seaborn —Summer Ass't. Dist. Agriculturist, Drumheller.
R. Wood —Instructor, Tractor Maintenance School.
W. Wasmuth —Summer Ass't. Dist. Agriculturist, Fairview.

New Offices Opened

Manning	—District Agriculturist office.
Peace River-Manning	—District Home Economist office.

Leave of Absence

Mrs. Donna Carlyle	—District Home Economist, Red Deer.
R. S. Forrest	—Regional Extension Engineer, Red Deer.
Mrs. Irene Leavitt	—District Home Economist, Calgary.

Professional Improvement Leave (as per Educational Leave Policy)

Miss Elizabeth Bartman	— 3 weeks.
C. A. Cheshire	—26 weeks (continuation from 1967)
Mrs. Edna Clarke	— 2 weeks.
D. E. Darby	—31 weeks (continuation from 1967)
H. M. Douglas	— 6 weeks.
J. S. Duncan	— 2 weeks.
Mrs. Norma Jean Gray	— 3 weeks.
D. R. Macpherson	— 3 weeks.
D. L. Steed	—11 weeks (continuation from 1967)
E. W. Walker	— 6 weeks and 16 weeks (continued into 1969).

GENERAL

This has been a year of adjustment to transition and consolidation of the whole division.

For the Extension Branches, the major adjustment was required in smoothing out the transfer of considerable responsibility to regional offices and a decentralization of authority. Much planning, understanding and co-operation was required, but regionalization is now starting to demonstrate results. Regionalization affects the whole department and the understanding co-operation of the department has made the transition possible.

Administration of the division was heavily handicapped as a consequence of an unusually large number of resignations or transfers. This involved recruitment, training and transfers of inexperienced staff. Fortunately, most of the resignations from this division involved transfers to other divisions. Recruitment and training of new staff became a major responsibility and required an increased amount of time and attention on the part of extension administration. Recruitment and training of new staff has particular significance to most other divisions of the department. Extension personnel have been the source of trained staff for many positions in the department.

A development of special interest was the awarding of the contract for the two year study of agricultural extension in Alberta to Calgary Farm and Ranch Consultants. This study was designed to consider all facets of agricultural extension as carried out in Alberta by government, university, agribusiness and farm organizations and to recommend changes or improvements where needed. These changes may involve the responsibilities of various agencies now engaged in some degree of agricultural extension. Improvements could involve more effective techniques or better trained staff to meet the new and more demanding challenges of modern agriculture, home economics and rural living.

For the Colleges Branch, it has been a year of adjustment and accommodation to the greatly expanded and improved building complexes at each of the colleges. New courses have been added. Established courses were altered to meet the greatly changed requirements of training in agriculture, agribusiness and home economics. An increased enrollment in 1968 has proven the acceptance of the new image for the colleges.

DISTRICT AGRICULTURIST BRANCH

The 1967 report makes special mention of dislocation and interruption of programs due to extensive tranfer of personnel from Extension to other divisions and to positions in agribusiness and other organizations. This situation prevailed again in 1968 although not quite on the same scale and the shortage of seasoned staff is now very acute. Several district offices have been without a district agriculturist for months and at year's end several offices were manned on a temporary basis. At present, 59.3 per cent of district men have less than 5 years experience in extension.

Under prevailing conditions, a further decrease in activities could not be avoided. The rate of counselling on farms and at the office was almost maintained, but a slightly more than 20 per cent reduction is recorded in the number of meetings, lectures and demonstrations.

	1967	1968
Farm calls	17,958	17,768
Office interviews and telephone calls	129,262	119,963
Meetings, demonstrations	6,150	4,858
Attendance at above	276,609	226,264

Statistics on interviews, farm calls, number of meetings, etc. provide valuable information on trends, but do not reflect an actual picture of achievements. It is hoped that the present emphasis on detailed written situation statements as a prerequisite to district programs and the insistance on written periodical evaluation of all priority projects will, in the future, provide definite measurements of progress and we hope of significant achievements.

Activities in 1968 with corresponding figures for 1967 are given in the following pages:

Plant Industry

	1967	1968
1. **Crop Improvement**		
(grain, forage and special crops)		
Meetings, demonstrations, tours etc.	533	491
Attendance at above	17,345	13,123
Office interviews, phone calls	14,151	14,314
Farm calls	2,018	3,055
Seed Cleaning Plants assisted	91	83
Seed drill survey samples submitted	501	3,113

2. **Soil Conservation**

Meetings, demonstrations, tours, etc.	274	219
Attendance at above	8,870	5,451
Office interviews, phone calls	13,926	10,300
Farm calls	1,819	1,649
Soil samples submitted for analysis	11,171	12,565

3. **Weed Control**

Meetings, demonstrations tours, etc.	108	131
Attendance at above	5,184	3,230
Office interviews, phone calls	6,990	5,304
Farm calls	594	691

4. **Crop Pests and Diseases**

Meetings, demonstrations, tours, etc.	170	45
Attendance at above	1,629	2,074
Office interviews, phone calls	7,280	7,240
Farm calls	1,220	1,165

5. **Horticulture**

Meetings, demonstrations, tours, etc.	146	117
Attendance at above	7,646	4,269
Office interviews, phone calls	14,155	13,219
Farm calls	1,527	1,371
Trees ordered through D.A. offices	2,259,395	1,901,550
Farmstead plans	2,595	3,201

6. **Beekeeping**

Meetings, demonstrations, tours, etc.	2	4
Attendance at above	65	175
Interviews, phone calls	283	300
Farm calls	16	13

Staff was involved in a crash program to improve the quality of seed grain sown. The number of seed samples taken increased from 501 in 1967 to 3,113 in 1968.

Forage seed placed under ARDA policies also increased from 1,276,571 lbs. to 1,561,209 lbs., thereby reflecting further improvement in soil improvement practices. Soil samples taken by farmers increased 10 per cent while overall fertilizer use increased 5 per cent. Tree plantings on the other hand, decreased 10 per cent.

Animal Industry

1. **Livestock Improvements and Marketing**

	1967	1968
Meetings, demonstrations, tours, etc.	444	388
Attendance at above	18,067	20,093
Office interviews, phone calls	15,750	15,684
Farm calls	2,307	2,534
Herds and flocks culled	165	128
Feed samples submitted	1,367	1,507
Herds assisted with R.O.P.		
Beef	219	275
Swine	35	35
Sheep	7	9
Dairy (Herds on test)	816	498
Livestock Placements		
Horses	65	47
Cattle	1,607	958
Sheep	1,790	951
Swine	1,155	784

2. **Animal Pest Control**

Meetings, demonstrations, tours, etc.	52	43
Attendance at above	1,552	1,326
Specimens submitted	792	239
Interviews, phone calls	2,027	1,759
Farm calls	297	319

3. **Veterinary and Livestock Diseases**

Meetings, demonstrations, tours, etc.	42	70
Attendance at above	1,810	2,159
Office interviews, phone calls	2,211	1,942
Farm calls	415	398
Specimens submitted	312	239

Most districts reported a slight increase in beef cattle but a decrease in dairy cattle. Hog numbers remained about the same. In general, livestock operations are fewer but larger. The livestock disease and pest situation was normal, with calf scour, pulmonary diseases, vibriosis, warbles and lice sharing top listing.

A 10 per cent increase was recorded in feed samples submitted for analysis, also a 25 per cent increase in the number of beef herds on R.O.P. On the other hand, the number of dairy herds on test dropped almost 40 per cent as did the number of animals placed. The latter is a direct result of the change in cattle assistance policies.

Poultry now is mostly a specialized enterprise as are fur farming and beekeeping. Livestock nutrition remains one of the problems to be met although considerable improvement has taken place in recent years.

Junior Activities

	1967	1968
4-H Agricultural clubs organized and supervised	397	369
Members enrolled in above	7,305	6,350
4-H functions attended by Dist. Agriculturists	1,200	768
Attendance at above	77,595	56,966
Farm and home visits re: 4-H	1,574	881
Office interviews, phone contacts	13,986	11,820
Demonstrations, talks given by D.A.'s	857	563

Transfer of administrative responsibility for 4-H from the Department of Agriculture to the Department of Youth was phased and now is complete. District extension staff act almost exclusively in a resource role and staff involvement varies with districts. There was genuine concern on the part of many club officials and parents that the agricultural aspect of 4-H is being downgraded. The considerable drop in the number of demonstrations and talks given by district agriculturists at 4-H gatherings seems to bear this out. From 940 in 1966, these dropped to 857 in 1967 and 563 in 1968.

Agricultural Economics

1. **Records, budgets, analysis**

	1967	1968
Meetings, Schools, etc.	275	192
Attendance at above	4,185	2,529
Interviews, phone calls, etc.	4,553	5,094
Farm visits	824	809

2. **Income tax Estate Planning**		
Weekly school, etc	57	75
Attendance at above	4,104	3,319
Interviews, phone calls, etc.	1,644	1,342
Farm visits	127	117
3. **Father-Son Agreements, leases, etc.**		
Meetings, schools, demonstrations	10	4
Attendance at above	350	223
Office interviews, phone calls	614	1,125
Farm visits	107	131
4. **Marketing**		
Meetings, schools, etc.	23	57
Attendance at above	513	4,027
Office interviews, phone calls	623	2,001
Farm visits	72	661
5. **Miscellaneous, general economics**		
Meetings, schools, etc.	140	85
Attendance at above	3,653	1,592
Office interviews, phone calls	3,905	2,891
Farm calls	585	525
6. **Individual, family and group participation in more intensive farm management programs**		
Individual contacts		
Farm calls	1,715	2,241
Office calls	11,339	12,453

Farm management now ranks highest in Extension's list of priorities, yet, staff found it most difficult to break through. It appeared that no matter how much farmers heeded the call for greater efficiency in the past, they could not keep up with increased costs in the light of present prices for farm products. So the demand now is not for more efficiency, but for markets and better prices for farm products. This is a field where staff can play only a limited part. It did, however, assist materially in connection with the hog plebiscite.

	Farm Economics less Marketing		Marketing	
	1967	1968	1967	1968
Meetings	482	356	23	57
Attendance at above	12,292	7,663	513	4,027
Average attendance	25.5	21.5	22.3	70.6
Office interviews and phone calls	10,716	10,452	623	2,001
Farm calls	1,645	1,580	72	661

A new approach to farm management teaching is considered for 1969. Drafted by the Farm Economics Division in co-operation with Extension, its more realistic design fits in well with the new approach to program planning and new plans for staff in-service training.

Agricultural Engineering

	1967	1968
1. **Buildings**		
Meetings, schools, tours	61	44
Attendance at above	2,052	1,335
Office interviews, phone calls	3,979	3,142
Farm calls	753	673
2. **Water, Sewers, Utilities**		
Meetings, schools, tours	39	28
Attendance at above	1,108	945
Office interviews, phone calls	4,462	3,321
Farm calls	615	426
3. **Drainage and Irrigation**		
Meetings, schools, etc.	28	49
Attendance at above	875	1,038
Office interviews, phone calls	1,639	2,071
Farm calls	411	494
4. **Farmstead Mechanization planning**		
Meetings, schools, etc.	53	85
Attendance at above	3,368	1,813
Office interviews, phone calls	2,020	1,721
Farm calls	632	437
5. **Machinery**		
Meetings, schools, etc.	18	30
Attendance at above	1,288	2,893
Office interviews	936	930
Farm calls	65	124
6. **General, Miscellaneous**		
Meetings, schools	32	12
Attendance	833	228
Office interviews, phone calls	1,424	1,445
Farm calls	149	158

Probably reflecting the uncertainty of the crop situation and tighter credit, interest in farm building, water, sewers and farmstead mechanization is down. Interest in welding schools, tractor schools and practical field demonstration on the proper operation of farm equipment is up. The interest of farmers of the Red Deer region in natural gas co-ops is worthy of note.

Other Activities

ARDA 1. **Advisory Committees,**	Farm calls		Interviews, Phone calls		Meetings, Tours Demonstrations	
	1967	1968	1967	1968	1967	1968
Agricultural Committees of Council, A.S.B.	115	87	1141	761	339	245
Improvement District Special areas	8	15	128	375	43	104
Council meetings	24	17	195	138	95	37
Advisory Committees of Agric. Committees	83	150	431	504	100	109
Planning Commissions	7	10	149	112	53	36
F.U. and C.D.A.	17	21	366	292	82	77
ARDA	49	77	1027	1200	90	69
Other advisory	77	61	691	795	65	100
Total	381	438	4128	4177	867	777

2. **General Extension**						
Agricultural Societies	104	76	1225	891	159	132
Fairs	80	46	760	807	103	93
Tours	67	47	290	200	29	16
F.U.A. General	28	16	296	338	72	67
Chambers of Commerce	15	10	366	407	122	102
Service Clubs, Churches			150	135	155	31
Phones, R.E.A.	5		90		1	
Sociology other than in 4-H	99	36	565	488	208	72
Miscellaneous	341	311	3484	3697	125	78
Total	739	553	7226	6963	974	591
3. Participation in Professional Improvement	207	128	1676	1858	414	387

Mass communications play an important part in educational activities of district offices. Timely newsletters, often in co-operation with the agricultural field supervisor and at times with the district home economist, are gaining in popularity. Radio talks remained about the same in number, but T.V. presentations and contribution to weekly news columns are down.

	1967	1968
Releases to weekly press	1,325	958
Number of papers co-operating	90	84
Newsletters written	362	549
Radio talks and interviews	383	376
T.V. presentations	150	123

Co-operation of the news media has in the main been excellent and is sincerely acknowledged.

The picture of activities would not be complete without a mention of the important part that regional agriculturists have played in the overall program. Their responsibility is administrative, but also one of leadership, guidance and support. The latter was especially important this past year as a result of staff dislocation already referred to.

HOME ECONOMICS BRANCH

Extension home economists were concerned with the need for human development and recognized the interrelationship and interdependency of economic, human and social development.

A vital contribution was made to society through continuing programs with emphasis in such areas as consumer competence, family housing, family well-being and community activities.

Program implementation was by intensive study conducted with groups through workshops, seminars, short courses and schools. Mass communication was achieved through regular television, radio programs, newspaper articles and newsletters. Individual assistance was provided through home visits, office interviews, correspondence and phone calls.

Home Management

	1967		1968	
	No.	Attend.	No.	Attend.
Lectures	298	6,551	308	5,975
Farm and Home Groups	9		14	354
Home Accounting Groups	7		12	359
Persons assisted	3,600		4,014	
Home visits	58		142	

A marked increase in all aspects of home management and family living were reported in 1968.

The demand for information regarding living costs, research information on household equipment, budgeting, record keeping, etc., by families and individuals increased by 12 per cent over 1967. The number of urban requests also increased. More emphasis was placed on providing consumer education programs as recommended by the Royal Commission on Consumer Problems and inflation, Consumers' Association of Canada and the new Department of Consumer and Corporate Affairs.

More emphasis was also placed on training staff in home management and family living to enable staff to meet the increasing demand for information in these areas.

More activities were undertaken on a provincial and regional basis, by the provincial and regional specialists to provide programs in consumer education and family living.

District home economists encouraged and implemented an increased number of meetings and seminars dealing with wills and estate planning. Requests for more in-depth courses indicated a growing realization of the need and importance of planning for family security. District home economists assisted 164 persons with low incomes and conducted 62 home visits to assist families with money management, record keeping and budgeting.

Family Living

	1967		1968	
	No.	Attend.	No.	Attend.
General meetings	55	2,937	62	2,131
Preliminary meetings			49	692
Workshop Series (6 meetings each)			23	8,283
Persons assisted	423		1,284	

A pilot project in family life education was undertaken by the regional home management specialist and local district home economist in the southern part of the province. This project met a community need by evidence of the excellent attendance and interest.

Topics included in the series on family living are as follows: "In The Beginning", "The Early School Years", The Second Decade", "Education for Marriage", "This Business of Family Living", "Rejuvenate or Retire".

Food and Nutrition

	1967	1968
Demonstrations and lectures	110	132
Workshops	63	39
Total attendance	6,869	4,367
Food service programs assisted	15	12
Persons assisted by phone, office, etc.	5,722	7,502
Home visits	128	112
E.M.O. Lectures		16

Research evidence points to a decrease of 10 per cent in the level of good diets in North America. There was little excuse for this situation with the over production and abundance of wholesome food products. The main emphasis in the food and nutrition field has been better meal management for nutrition and economy. Lectures and demonstrations emphasized menu planning, meal buymanship and the distribution of the publication "Family Meal Planning".

The concern over the correlation of obesity and mortality rates and the increasing prevalence of fad diets prompted many lectures at weight reducing clubs throughout the province. Preliminary research findings indicating that a child's mental development is influenced by the nutritional status of the mother increased our involment in prenatal nutrition courses. Special diet instruction requests have increased.

The food catering workshops continued to be in demand by community catering groups throughout Alberta. Fourteen workshops were conducted by the food and nutrition specialist and district home economists. There were numerous requests for information on food preservation methods and techniques.

Consumer education was emphasized through a series of lectures on food product labelling, packaging, food additives and 'convenience' food products. Four publications were revised.

Home Design

	1967	1968
Housing (Lectures and Demonstrations) (Home Planning and Remodel Schools and Workshops)	67	45
Decorating	92	130
Total Attendance	4,355	4,931
Plans for new homes:		
complete	257	216
partial	158	140
Plans for remodelled homes:		
complete	60	56
partial	268	173
Community Groups assisted	35	30
Persons assisted:		
House plans	665	730
Color	722	649
Furnishing	492	554
Storage	191	260
Utilities	76	151
Building and finishing materials	379	409
Persons otherwise assisted by phone, office interviews, etc.	2,542	2,983
Home visits re: Home planning, remodelling and decorating	1,079	937

Completed plans for new homes decreased by about 15 per cent. This can be attributed mainly to the high cost of housing and the unavailability of loans at reasonable interest rates. Home design specialists and home economists emphasized the total home by spending appreciably more time with families in in-depth discussion of suitable floor plans, color schemes, building and finishing materials.

The response to "Preview '68 — New Products for the Home" held in Fairview in conjunction with "Progressive Farming Days" was excellent. It created an awareness of the excellent array of interior finishing materials that are available for housing.

High prices for quality furniture and the lure of individuals to use antiques and restorations for interesting interiors has shown a trend as requests for furniture refinishing courses increased. A successful group workshop held at Iron River totalled 11 refinished furniture items.

Buymanship of furnishings, building and finishing materials, particularly floor coverings, was high on the list for individual assistance.

The following demonstrations were revised and updated this year: "Hard-Surfaced Floor Coverings", "Unique Ideas in Budget Furnishings", "Floor Planning, and Exterior Color Schemes".

A home planning and remodelling workshop was conducted in Ponoka. Fifteen families met once a week for six weeks covering the planning through to the construction and interior design. In-depth discussion and studies of individual family housing needs resulted in much satisfaction to the participating families.

Assistance was given a junior college in developing and presenting a course in home design. Other community programs included a home for retarded children, Calgary and regional educational T.V. programs, T.V. programs at Flare Square and participation in Retail Lumberman's Association home improvement shows. A series of plans for minimum sized homes for a proposed low cost housing project (ARDA) was prepared.

CLOTHING AND SEWING

Sewing

	1967		1968	
	No.	Attend.	No.	Attend.
Sewing Courses (3 days or more)	249	7,384	192	2,180
Sewing Finishes and Clinics (1 day only)	7	121	21	213
Pre-sewing meetings	62	756	149	1,921
Information and assistance to other persons			1,881	

The demand for sewing courses was very high, particularly for finishing techniques, advanced sewing and tailoring. Since this field of home economics was not a priority program this year, the actual number of sewing courses conducted dropped by 18.3 per cent.

The 1968 "Cost of Living Index" indicated a substantial increase in clothing costs. This fact, coupled with the availability of attractive fabrics on the market, the rapidly changing fashions and a desire for personal satisfaction in constructing wearables substantiates the steady demand for sewing courses and requests for information on sewing and related subjects.

Clothing and Textiles

	1967		1968	
	No.	Attend.	No.	Attend.
Lectures, demonstrations and workshops	225	4,490	181	4,991
Home visits	223		234	
Information and assistance to other persons	3,230 (incl. sewing)		2,049	

Consumer information was in demand as indicated by the 18 per cent increase in inquiries. Care of clothing and other household textiles such as draperies, carpeting and upholstery constitute a major part of the inquiries. It was estimated that 6 per cent of the consumer dollar spent goes for textile care, hence the need for this type of information.

"Let's Get Acquainted with Fabrics" and "Clues to Clothing Care" were two talks used repeatedly throughout the province.

With the increase in clothing costs, homemakers must buy wisely and properly care for their textile products. Lack of textile labelling and the development of new fabrics and finishes made this task increasingly difficult. The Home Economics Extension Service was the only source of accurate and unbiased information in most districts. Retail stores also took advantage of this service. Proper garment fit and pattern alterations, selection of accessories, dyeing fabrics, and stain removal were other areas of interest.

Aged and handicapped persons have great difficulty locating suitable clothing. This past year, our service was used as an available and influential resource in this regard.

Handicrafts

	1967		1968	
	No.	Attend.	No.	Attend.
Lectures, Demonstrations and workshops	71	1,909	101	2,900
Persons otherwise assisted	358		607	

Creative use of leisure time was increasingly important. More people turned to handicrafts as a satisfying hobby and the need for instruction in good design principles became more necessary. This instruction was accomplished through workshops of one-half to two days in duration as indicated by the increase in lectures, demonstrations and workshops.

Of notable improvement in the quality and value of handicrafts exhibited at fairs, W.I. and F.W.U.A. conventions in the past few years is a direct result of this instruction. The revival of old but worthwhile handicrafts such as hardanger, drawn thread and drawn fabric, crewel embroidery, batik, silk screen printing and tie dyeing is an interesting and encouraging trend.

4-H Girls Club Work

Home economists continued to work with 4-H Clubs until September when records and files were assigned to regional 4-H supervisors of the Youth Department. The role of district home economists then became that of a resource person in home economics. Several home economists assisted with district and provincially organized functions including leaders' training and conferences. One district home economist accompanied the winning teams to Bozeman, Montana. District home economists were resource personnel for 4-H district councils.

	1967	1968
No. of 4-H Homemaking clubs assisted (winter)	193	165
(in contact summer)	58	49
Lectures and demonstrations at 4-H gatherings	404	194
No. of 4-H functions attended	733	376
Junior activities other than 4-H assisted	47	36
Home visits re 4-H and other Junior work	434	135
No. of 4-H Councils	36	25
No. of 4-H Council meetings (attendance 1,220)	64	28
Persons otherwise assisted re 4-H		2,733

Information and Publicity

Mass media, especially radio and T.V. proved effective in reaching families and individuals who do not attend extension meetings, e.g. mothers with young children and those unaware of extension programs. Response by phone calls, letters, etc. for further information indicate that time spent by staff was worthwhile and effective.

	1967	1968
Newspaper articles written	1,087	1,084
No. of newspapers using articles	100	105
Newsletters written	186	155
Radio talks and interviews	215	157
Radio releases	118	125
T.V. talks, demonstrations and interviews	108	128
T.V. releases	36	13
No. of circulars written	1,279	612

Other Activities

Projected budgets were prepared for the first time for two of the ten major programs of this branch. A three year projected plan of priority programs and staff requirements was developed. A system of recording time spent in carrying out major programs was introduced to more accurately estimate program budgets.

District home economists co-operated in plans for an overall district program plan. They worked towards developing a district socio-economic inventory. Situational statements were prepared in conjunction with more specific long range projects to meet special district and area needs.

An increased awareness was reported of the scope of the work of this branch on the part of other government services, social agencies, district and provincial organizations. The result was a wide variety of requests for co-operation, information and guidance in program planning and development as well as individual referrals. There were 136 such meetings with 3,589 attending.

Work with Native people was carried on through 77 meetings or special workshops attended by 1,643. For the first time, two dormitory schools in the north were used for five day courses for native women, to provide practical experience in food preparation and home management. The Department of Indian Affairs and the Alberta Government paid for room and board for the student homemakers.

Summary of Activities

	1967	1968
Demonstrations, Lectures, Short Courses	3,227	3,406
Attendance	100,683	112,267
Fairs and Conventions — judged and addressed	174	194
Letters requesting information	17,844	19,132
Home visits	2,069	1,997
Office interviews	7,034	7,770
Phone calls for information	20,616	21,117
Functions attended		615

INFORMATION BRANCH

General

The Information Branch continued its efforts to provide technical agricultural and home economics information through the mass media for farmers and others engaged in agriculture. It also provided advice in the field of public relations and mass communication to other members of the department and assisted with editing and general publicity work.

The Information Branch either provided or assisted with mass communication training at the following: a TV workshop for the Red Deer regional extension staff, the annual inservice training session at Olds, the Olds inservice training session for new field staff and a two day communication workshop for the Farmers Union and Co-operative Development Association.

Considerable assistance was provided for special events such as Flare Square "Salute to Agriculture" held in conjunction with the Calgary exhibition and stampede. The branch head also handled extra assignments including editing of the department's annual report, the preliminary arrangements for the official opening of the O.S. Longman Building and co-ordination of the department's involvement in the Edmonton Farm and Ranch Show.

PRESS SECTION

Farm Notes

Approximately 245 timely agricultural articles were released in "Farm Notes" to nearly 2,500 individuals representing radio and TV stations, newspaper, commercial companies, government institutions, and libraries in many parts of the world.

About 175 names were added to the mailing list for this publication during 1968. Again, most of the requests were from commercial companies. The "Farm Notes" items are used extensively by the weekly papers and frequently appear in other periodicals and journals.

Science and The Land

Fifty-two reports on agricultural research projects were released to the same people on the "Farm Notes" mailing list. The material for these reports was gathered during visits to the federal research stations at Lethbridge, Lacombe, and Beaverlodge, and to the Faculty of Agriculture, University of Alberta, Edmonton.

News Releases and Features

The Information Branch distributed about 75 news releases on appointments and progress in department projects in 1968.

An attempt was made for the first time to provide feature stories for key farm publications. The objective was to increase the amount of technical agricultural information from Alberta in these publications. Response from the publications was favorable. Of the 29 feature stories released, 21 were published in widely circulated farm publications by the year end.

Agricultural Weather Forecast

For the eighth consecutive year the Information Branch provided a daily agricultural weather forecast for Alberta farmers. The service, a joint effort of the branch and the Edmonton weather office, was prepared each morning and distributed through Broadcast News to 36 stations for noon release.

This year the service commenced May 7 and because of the adverse growing and harvesting conditions, was continued until October 31 in the hope that it would assist farmers in their struggle to complete their harvesting operations. A total of 129 forecasts were released.

As in previous years the service consisted of an accurate summary of farm weather conditions, and where possible, an outlook for the following one, three, and five-day periods was also included. The forecasts always attempted to relate weather conditions to seeding, weed spraying, summerfallowing, haying, harvesting or other timely farm operations based on information from department specialists.

In February, the head of the Information Branch attended an agrometeorological seminar at the University of Saskatchewan, Saskatoon. The information exchanged indicated a future trend toward long range climatological forecasts depending on the availability of finances and computer facilities. The Alberta agricultural weather forecaster attended a number of other similar meetings held at the University of Alberta.

When the service was discontinued in the fall, all radio stations which received the forecasts were mailed a questionnaire which they were asked to complete and return. Eleven of the thirteen station managers replied and in all cases indicated that their listeners had shown a favorable reaction to both the type and content of the forecast. Ten of the replies requested that the service be continued again next year and one reply requested the service be provided on a year round basis.

RADIO AND TV SECTION

Radio Production

During 1968 "Call of the Land" the Alberta Department of Agriculture's ten minute, Monday to Friday, farm broadcast was aired 262 times on eleven stations:

CKUA Edmonton
CFGP Grande Prairie
CFCW Camrose
CKRD Red Deer
CKYL Peace River
CKSA Lloydminster
CJDV Drumheller
CHAT Medicine Hat
CJOC Lethbridge
CJDC Dawson Creek
CJYR Edson

"Call of the Land" was used primarily to publicize the services of the Extension and Colleges Division of the Alberta Department of Agriculture. Current information was also provided on federal and provincial farm policy and good farm management practices.

The Bureau of Broadcast Measurements Survey provides an assessment of the program. Quarterly reports indicate that over 119,900 persons listened to the program once or more a week, on 10 of the stations carrying the program. One other station does not participate in the B.B.M. survey.

Programming

Efforts were made to provide coverage of all segments of the agricultural industry. One of the ways in which this was accomplished was by personal interviews with Alberta Department of Agriculture staff, researchers, university personnel, farm people and many others of national and international representation. A total of 366 personal interviews were included in this year's programs. The following table provides a breakdown of the material and the number of separate topics dealt with during the year.

Miscellaneous information	71
General agriculture (world and national)	95
Livestock	305
Farm safety	19
Economics	114
Crops, soil and water	181
4-H	17
Poultry	30
Dairying	64
Veterinary	33
Horticulture	74
Agricultural engineering	40
Pest and weed control	85
Agricultural colleges	18
Fur farming	26
Consumer information	44
Agriculture	8
	1,224

The majority of program material was directed to the farm operator; however, many of the programs carried information for the urban residents as well. Promotional time was provided for events sponsored by the Alberta Department of Agriculture and other agricultural organizations.

A cross section of events provided with on-the-spot coverage included: Western Stock Growers, Western Hog Growers, Dairymen's Association annual conventions, breed association meetings, Exhibition Board meetings, Alberta Federation of Agriculture, Calgary and Edmonton Bull Sales, Edmonton Farm and Ranch Show, Canada Department of Agriculture Research Stations at Beaverlodge, Lacombe and Lethbridge, University of Alberta Feeder's Day and Kinsella Field Day, Agricultural and Vocational Colleges at Fairview, Vermilion, and Olds, International Society of Range Management Field Tour, Brooks Horticulture Station, Alberta Farm Writers Tour into northeastern Alberta, Edmonton Exhibition, Calgary Stampede, Lethbridge Seed Fair, Manyberries Range Station, Lac La Biche Mink Show, Alberta farms and ranches, and Farmers Union of Alberta annual convention.

For the eleventh consecutive year, interviews and reports from the Toronto Royal Agricultural Winter Fair were released directly through the Alberta Government telephones network to the eleven participating stations. In addition, night press reports were provided for private stations and daily newspapers.

"Call of the Land" was produced, recorded and distributed from the studios of the Information Branch. A total of 4,851 "Call of the Land" broadcasts had been released as of December 31, 1968.

Television

The Alberta Department of Agriculture co-operated with the other prairie provinces, the three universities and the C.B.C. to produce the television short course "This Business of Farming" for viewing in January 1969. The theme of the five day series was "Livestock Production". Eight Alberta hog producers and four agrologists participated in the one hour swine feature "Gearing For Production". Follow-up programs were arranged each day on four local stations by regional extension personnel.

An evaluative questionnaire was included in the summary booklet provided for viewers of the 1968 "This Business of Farming" series. Although the booklets were distributed primarily through district extension offices, only about 60 per cent of the farmers who returned the questionnaire had attended an extension meeting during the last year. This supports the findings of a 1967 survey by the Information Branch which indicated that television reaches a large number of farmers who otherwise would have no contact with extension workers.

Products Promotion

Various programs were planned to promote Alberta agricultural products.

The most successful, was a food fair held in co-operation with a shopping mall. Display booths were set up along the mall by various producer groups and the Department of Agriculture. During the two week promotion consumers had the opportunity of discussing the food products with booth attendants and tasting samples. Agricultural products represented included potatoes, rapeseed, honey, poultry and lamb.

Other promotions during the year were done in co-operation with exhibition associations, Canadian Honey Council, Alberta lamb producers, Alberta Turkey Broiler Marketing Board, Alberta Potato Commission, National Salad Committee and others.

New for Homemakers, a monthly release done in co-operation with Home Economics Branch specialists, was a 1968 success. This release, to approximately 500 home economics teachers, business home economists and press, had favorable reception and was frequently used by daily and weekly papers.

Summary of Activities

Radio and TV —	256	daily 1 minute programs to 11 rural stations.
	169	daily C.B.C. consumer programs.
	18	television programs.
Releases —	25	press and news releases.
	6	booklets and brochures.

Graphics

The Information Branch provided graphics, art work and other supporting materials to other members of the department. The artist also provided assistance with layout and design for extension publications, posters and displays.

Record of Art Work done during 1968-69

Cover designs	33
Pamphlet designs	8
Posters — large and small	197
Miscellaneous including: graphs, letterheads, transparencies, illustrations and velco and T.V. boards	310

AGRICULTURAL ENGINEERING BRANCH

The branch altered its program to meet some of the changes in agricultural production and the changing needs of the rural public. These modifications and additions were suggested by various farm groups, district agriculturists and by the Extension engineers to provide answers to some of the pressing problems.

The engineers conducted field tests on bulk fertilizer storage in co-operation with industry. They were able to determine some of the problems and provide solutions which may not have been evident in laboratory research. From these tests, extension engineers were able to make practical recommendations for the storage of bulk fertilizer on the farm.

The branch conducted a number of gas (H_2S, NH_3, & CO_2) detection tests on liquid manure storage installations, and carried out practical work on the various methods for the removal of liquid manure. This work provided some of the answers to difficult problems in manure handling and disposal.

The branch co-operated with the Plant Industry Division in conducting a new pesticide applicators course by arranging the demonstration of the latest aerial and ground spraying equipment at the Red Deer Industrial Airport. Commercial flying organizations and equipment manufacturers provided the equipment and personnel. The facilities at the airport were made available through the co-operation of the City of Red Deer and the Aviation Committee of the Chamber of Commerce.

Evening Welding Schools were arranged at the Composite or Vocational High Schools at Drumheller, Stettler, Ponoka, Camrose, and Wetaskiwin. These were organized and administered by the Agricultural Engineering Branch in co-operation with the Department of Education, and the local school administration. They provided instruction in welding to a large number of people who were unable to participate during the day. They also expanded the use of the excellent welding facilities at these high schools.

These are but a few examples to illustrate some of the new programs and changes which were incorporated during the year. They also point out how the Agricultural Engineering Branch has improved its programs by co-operating with industry, local county administration, and other government departments to utilize their facilities and personnel.

Requests for meetings, short courses, tours, demonstrations, and field days decreased but the demand for individual farm calls, office calls, group meetings and special projects increased. Direct comparison of the statistics would not be too meaningful as two regional engineers were on leave for almost a year, which resulted in a decline of some services listed in the statistics.

A number of the regional extension engineers scheduled district office calls which resulted in a better co-ordinated program and provided more concrete information on specific problems to individuals. There was an increase in office calls, telephone contacts and correspondence. It was interesting to note that 75 per cent of all enquiries were associated with farm buildings and or farmstead mechanization, and 20 per cent on water and sewerage and only 2 per cent on farm machinery.

Summary of the Major Agricultural Engineering Activities

Schools	No.	Attendance
Farm Building (General)	2	21
Swine Building	1	20
Home Building and Remodelling	4	80
Home Building and Remodelling Workshop	1	15
Sewerage and Plumbing	4	59
Electrification	1	37
Machinery	4	72
Tractor Maintenance	11	231
Rural Welding Clinic	17	374
Evening Welding School	5	80
Water and Water Well Development	3	71
Beef Production	2	140
Swine Production	2	65
Dairy Production	2	68
Others	9	267
Demonstrations and Field Days		
Water and Sewerage	2	80
Forage	3	220
Farmstead Mechanization (Manure Handling, etc.)	5	808
Machinery	3	235
Harvesting	1	10

Building Tours	7	143
Dairy	4	445
Others	5	197
General		
Progressive Farming Days	1	2,200
Short Courses	11	331
Meetings		
(a) Group Meetings with farmers	15	505
(b) Professional, Seminars, etc.	147	1,015
Farm Notes	6	
T.V. programs	5	
Radio programs	7	
Plan production		
(a) for general distribution	3	
(b) individual	109	
Bulletin and Pamphlets prepared	13	
Farm calls	903	
Calls to D.A. offices	257	

LEADERSHIP TRAINING

Nineteen sixty-eight marked the first full year of operation for the Leadership Training Branch. Its major objectives, as outlined in the 1967 Department of Agriculture Annual Report, were achieved. Activities and programs with voluntary organizations, the university and government agencies were highlighted by increased activities in each of the following major areas of responsibility: (a) teaching, (b) consulting, (c) co-ordinating, (d) initiating and (e) administration. Through staff training, district leadership courses and other functions with various organizations, such subject matter as program planning, leadership skills, sensitivity training, community development and communications skills were taught.

Summary: The percentage of time spent in each area of responsibility is given in the following table (1967 figures appear in brackets):

Teaching	32 per cent	(15 per cent)
Consulting	18 per cent	(35 per cent)
Initiating	5 per cent	(15 per cent)
Co-ordinating	10 per cent	(10 per cent)
Administration and Planning	35 per cent	(25 per cent)

The approximate distribution of time indicates that 50 per cent of the staff time was taken up teaching and consulting, while 15 per cent was spent co-ordinating with other agencies and initiating projects, ideas, etc. The balance of the time was spent planning for the activities and carrying our regular administrative duties.

PUBLICATION AND VISUAL AIDS

Improved and additional equipment and additional staff allowed for a much expanded service. The quality of work has been improved.

Stationery and Supplies

During the year enough stationery and most common lines of office supplies and material were stocked to quickly fill orders from headquarters and country offices. Record keeping of all items handled enabled us to expedite orders.

Mailing Centre

Anticipating a central mailing room system for the department in 1969, mailing lists presently used by the different offices were obtained. An expert will code names according to a standard chart which has been made available to all offices.

The co-operation received from all divisions should enable us to have the system in operation early in the new fiscal year.

Publications

The demand for agricultural publications seem to have levelled off at an annual increase of ten to twelve per cent. Requests for farm building plans dropped 50 per cent from 1967.

General agricultural publications distributed	433,220
Home Economics publications distributed (part of above total)	71,143
Farm Building plans	14,806

We have set up an interprovincial exchange of lists of publications, intent to publish and copies of all new publications. Interprovincial meetings with the federal government have greatly assisted this program.

Copying and Duplicating

The work load in the duplicating room necessitated new equipment. Multilith Copier was purchased in October.

Copies processed from stencils	1,413,819
Stencils produced	6,070
Xerox copies produced	273,902
Originals copied	41,651

Visual Aids

Requests from head office, specialists and extension workers in the field for the following equipment have been filled according to orders received:

	Number on hand	Requests filled
Overhead projectors	9	56
Filmstrip and slide projectors	18	145
Movie Projectors	9	124
P.A. Systems	6	28
Loud Hailers	4	15
Screens	17	118
Velcro Boards	11	33
Easels	12	65
Films	156	322

During the year nine films were purchased at a cost of $1,020.00. It is most difficult to locate up-to-date technical, practical, documentary films on agricultural subjects.

Names of Homes

Number of homes registered in 1968	67
Total registrations for the Province	783

MASTER FARM FAMILY PROGRAM

The A. W. Arrison family from Bassano was the only family to receive the award for 1968.

There were 17 families nominated at the district level. An assessment has been made of the qualifications scoring and total program. Necessary changes were planned for 1969.

AGRICULTURAL FEDERAL-PROVINCIAL MANPOWER COMMITTEE

Administration of the work of this committee was turned over to the Program Development Division under the direction of J. R. Gylander on April 1, 1968. The report for the program will be contained in their section.

AGRICULTURAL SOCIETIES

Responsibility for Agricultural Societies was also transferred to the Program Development Division on April 1, 1968, under the direction of J. R. Gylander. The report for this program will appear in that section.

AGRICULTURAL AND VOCATIONAL COLLEGES BRANCH

J. E. HAWKER, B.Sc., B.A., P.Ag., Director
J. E. BIRDSALL, M.Sc., P.Ag., Principal, Olds College
W. S. BARANYK, B.Sc., B.Ed., P.Ag., Principal, Vermilion College
J. A. R. PALIN, B.Sc., B.Ed., P.Ag., Principal, Fairview College
W. J. COLLIN, B.Sc., B.Ed., P.Ag., Co-ordinator of Agricultural Education

GENERAL

While the effect of necessary austerity measures was noticeable in reduced construction, 1968 saw a number of major buildings completed according to the long-range plan. Enrolment increased steadily and new courses were added to meet developing needs.

Graduation 1968

For the 1967-68 term, students were graduated from the Olds and Vermilion Colleges on June 28 and from Fairview on June 26, 1968. On those dates diplomas of graduation or certificates, shown in brackets, were presented as follows: (See table 1).

The total of 240 graduates is 23 above the total of 217 graduated in 1967.

Table 1	Olds	Vermilion	Fairview	Total
Agriculture	44(0)	20(8)	21(9)	85(17)
A.I. Technician	N/O[2]	N/O(13)	N/O	N/O(13)
App. and Assess't.	N/O	0(12)	N/R[3]	0(12)
Business Education	2(19)	0(12)	4(11)	6(42)
Fashion and Design	20(0)	N/O	N/O	20(0)
Hog Production	N/O	0(11)	N/O	0(11)
Home Economics	N/O	4(6)	N/O	4(6)
Horticulture Technology	[1]10(0)	N/O	N/O	10(0)
Irrigation Technology	14(0)	N/O	N/O	14(0)
Total	90(19) 109	24(62) 86	25(20) 45	139(101) 240

[1] Diplomas granted after completion of summer assignments.

[2] Not offered.

[3] Not recorded.

Staff Conference

Although meetings of staff concerned with specific areas of instructional material were held, it was felt unnecessary to hold a general staff conference.

Staff Changes

In 1968 there were sixteen staff changes compared with twenty-five in 1967. Of these, twelve left to accept other employment or were transferred to other responsibilities within the govment service; four were temporary appointments.

NEW COURSES

Agricultural Mechanics Technology

Courses in agricultural mechanics technology were added at the Olds and Fairview Colleges. The course at Olds represents a transfer of the first year course previously offered at the Southern Alberta Institute of Technology in Calgary with the second year to be transferred in the fall of 1969. At Olds, graduates will be fitted for both on and off-farm employment.

At Fairview, much the same course was offered in the fall of 1968 except that graduates, on recommendation of the course advisory committee, will be trained specifically for employment with agricultural equipment dealers.

Structures Technology and Management Development

A strong advisory committee was set up and recommended establishment of a course at the Vermilion College to train young men to go into the building supplies field, particularly in the rural area. The course will include a four to five month on-the-job training period.

Pesticide Applicators' Course

Set up to complete the training of those who had completed a theory course at the University of Alberta or elsewhere, the first laboratory course was held at the Olds College April 1 to 5, 1968. Fifty-six of the sixty-eight who registered received course certificates.

Irrigation and Soils Technology

After careful consideration by the advisory committees concerned, it was felt advisable to combine majors in irrigation, soils and conservation as an irrigation and soils technology course. The change will be effective in 1969.

Farriers' Course

A trial short course was held at the Olds College in May and June, 1968. It consisted of two to three hours of classes one evening a week for fifteen weeks. While called a "Farriers Course", the content was more general dealing with the care of light horses with particular attention given to foot care.

Dairy Production Course

The advisory committee had some difficulty finalizing a program in time and no course has yet been offered at Vermilion. Course alterations and other proposals are being considered.

Board of Agricultural Education

The spring meeting of the board was held in Edmonton on May 3, 1968. In his opening remarks the Minister said that the colleges must be cognizant of their role in providing education for youth, whatever their academic background, although he recognized the need for continually upgrading programs to meet ever advancing technological change.

The question of staff-student ratios at the colleges was discussed at length. In spite of low ratios, the Minister stated that the colleges were achieving a fair utilization of space and facilities.

A motion was passed on the recommendation of the Olds Alumni Association, that the new student residence at Olds be named "Grisdale Hall". The board also approved in principle, the naming of other major buildings at all three colleges as recommended by the respective alumni associations and approved by the director, the college principals, the Deputy Minister and Minister of Agriculture.

Progress was reported in possible concurrence between material taught in agricultural subjects at the colleges and in the Faculty of Agriculture at the University. Meetings of staff are continuing.

With the approval of the board and the Minister, the student rate for board and room at the colleges was increased from $60.00 to $65.00 a month effective September 1, 1968.

Previously cancelled, apprenticeship courses in automotive mechanics were offered at Fairview in the 1968-69 term.

A subcommittee, chaired by the Deputy Minister, was set up to study the future role of the colleges and to make recommendations to the Board of Agricultural Education.

Student Assistance Act Loans, Grants and Prizes

Assistance available to students in the 1967-68 college year (to June 30, 1968) was as follows:

	Olds	Vermilion	Fairview	Total
Loans	$25,789.00(52)[1]	$13,918.00(26)	$12,675.00(24)	$52,382.00(102)
Loan Remissions	3,487.70(25)[1]	[3]2,783.00(15)	2,162.50(15)	8,433.20(55)
Prizes ($50 each)	1,050.00(21)[1]	[3] 400.00(8)	350.00(7)	1,800.00(36)
Total	$30,326.70	$17,101.00	$15,187.50	$62,615.20
Number of Students Assisted	67(51)[2]	26(40)	28(46)	121(137)

[1] Number of Students

[2] 1966-67

[3] Estimated

Construction

Olds:

Due to austerity measures introduced by the government, construction at the colleges was somewhat reduced from previous years.

The following projects were included in the program of the campus redevelopment:

1. Student Residence — completed
2. Maintenance Shop (D.P.W.) — completed
3. Hog Studies Building — completed but a number of serious problems remain to be solved.
4. Cattle Sheds and Feeder — two cattle sheds and one feeder were constructed.
5. Administration and Academic Building — The contract was let in September to Laing Construction and Equipment Ltd. of Calgary. Progress was slow because of a carpenters' strike in November. To make way for this, the house used from 1913 to 1958 as a principal's residence, was demolished.
6. Mechanics Building — Plans were nearing completion at the end of the year and prospects were for a start on construction in March or April 1969.
7. Recreation Facilities — Plans were nearing completion for additions to the recreation section of the residence complex to be constructed in 1969.

8. Head House — Plans for a head house for the greenhouses were completed. To be constructed in 1969.
9. Grain Bins — Three 3,600 bushel metal grain bins were erected on concrete pads.

Vermilion:

1. Phase II of the College Building completed and placed into service.
2. Sewer and water extensions provided for new buildings planned for 1969, with adjustments to the storm sewer system made to facilitate the revision of a long range development plan.
3. An extensive system of sidewalks to connect the main buildings on campus completed.
4. The first phase of campus road development, including curbing and preparation for paving was completed. The campus plan provides for a perimeter road and a pedestrian campus core.
5. The original College Building built in 1913 was demolished and the campus water tower disassembled. The area was tidied up and will be part of the landscaped area.

Fairview:

1. Girls' Residence — Phase I (50 student unit) completed and occupied and named "Dunvegan Hall".
2. Plant Science Building — Phase I — was completed and occupied. One greenhouse section is included.
3. Animal Science Laboratory — Phase I of an Animal Science unit was completed and occupied.
4. Campus Maintenance Building — completed and in use by end of year.

Appreciation

Again in 1968, the colleges received excellent support from a number of commercial companies, farm and other organizations, and from many individuals. The Department of Agriculture expresses its sincere appreciation to all of these people.

A number of other departments of the provincial government, the university of Alberta and the federal government have been most helpful. Their assistance is gratefully acknowledged.

The very fine co-operation of the college principals and their staffs has been very much appreciated.

OLDS AGRICULTURAL AND VOCATIONAL COLLEGE

Highlights of 1968 were the opening of the new 500 student residence, commencement of an Administration-Academic building and a substantial increase in enrolment.

Enrolment

Enrolment for the year was as follows:

Enrolment for the year was as follows:

	Winter	Spring	Fall
Agriculture			
First Session	42	9	89
Second Session	60	11	11
Third Session	23	18	25
Fourth Session	33	9	20
Agriculture Mechanics			21
Horticulture			
First year	17		15
Second year	10		15
Irrigation Technology			
First year	7		6
Second yaer	14		6
Fashion and Design	20	20	30
Business Education	23	22	41
Academics	23	19	14
Appraisal and Assessment		20	
Farriers' Course		30	16

Total Person-Days — 44,520

Visitors' Day

Visitors' Day was held March 11. Because the campus was somewhat disorganized by construction it was not advertised. Parents of students and their friends were invited and attendance was 400. They were invited for noon lunch in the new dining room and most came at that time. It was one of the most successful Visitors' Day held in recent years.

Dress Review

The Dress Review was held on June 16 as a separate function. The new dining room provided an unusually fine setting for "Fashions of Romance" which was the name given to the program which was staged by the class in fashion and design technology. About 300 people attended.

Graduation, Home Coming and Official Opening of the Student Residence

Friday, June 28 about 1,200 people took part in a combined event with the official opening of the student residence added to the usual graduation ceremonies and Alumni Home Coming program.

Honorable H. E. Strom, Minister of Agriculture and Honorable F. C. Colborne, Minister of Public Works, represented the government in connection with the programs. Rev A. G. S. Edworthy of Robertson United Church, Edmonton, was graduation speaker. Reverend Father Pendergast of St. Joseph's College, University of Alberta, Edmonton, dedicated the new building and gave the invocation at graduation. Mr. J. E. Hawker, Director of Colleges, acted as chairman.

The classes of 1918, 1928, 1943 and 1958 were specially honored on their respective anniversaries.

ENROLMENT AT EACH COLLEGE FOR THE WINTER, SPRING AND FALL SESSIONS - 1968

	OLDS			VERMILION			FAIRVIEW			TOTAL		
COURSE	WINTER	SPRING	FALL	WINTER	SPRING	FALL	WINTER	SPRING	FALL	WINTER	SPRING	FALL
AGRIC.-Dip.	158(148[4]	47(16	144(97	77(111	17(15	53(44	41(61	N/O	36(43	276(320	64(31	233(184
AGRIC.-Cert.	[3]N/O	N/O	N/O	N/O	12(N/O	6(9	12(N/O	12(N/O	9(13	12(N/O	24(N/O	15(22
ART. INSEM'N	N/O	N/O	N/O	14(14	N/O	N/O	N/O	N/O	N/O	14(14	N/O	N/O
BUS. EDUCATION	22(18	23(20	41(23	15(32	13(32	26(15	19(26	12(12	17(19	56(76	48(64	84(57
FASHION-DESIGN	20(15	20(15	30(21	N/O	N/O	N/O	N/O	N/O	N/O	20(15	20(15	30(21
HOG PRODUCTION	N/O	N/O	N/O	N/O	11(N/O	N/O(17	N/O	N/O	N/O	N/O	11(N/O	N/O(17
HOME EC.-Dip.	N/O	N/O	N/O	7(8	7(8	9(7	N/O	N/O	N/O	7(8	7(8	9(7
HOME EC.-Cert.	N/O	N/O	N/O	9(N/O	9(N/O	10(11	N/O	N/O	N/O	9(N/O	9(N/O	10(11
HORTICULTURE	27(23	N/O	30(29	N/O	N/O	N/O	N/O	N/O	N/O	27(23	N/O	30(29
IRRIGATION	21(14	N/O	12(23	N/O	N/O	N/O	N/O	N/O	N/O	21(14	N/O	12(23
LAND APPRAISAL	N/O	20(19	N/O	N/O	12(11	N/O	N/O	4(5	N/O	N/O	36(35	N/O
MOTOR MECH	N/O	N/O	N/O	N/O	N/O	N/O	11(5	13(12	N/O(14	11(5	13(12	N/O(14
WELDING	N/O	N/O	N/O	N/O	N/O	N/O	9(12	12(9	N/O(18	9(12	12(9	N/O(18
PESTICIDE APP.	N/O	70(N/O	N/O	N/O	N/O	N/O	N/O	N/O	N/O	N/O	70(N/O	N/O
AG. MECHANICS	N/O	N/O	21(N/O	N/O	N/O	N/O	N/O	N/O	5(N/O	N/O	N/O	26(N/O
ADULT UPGRADING	N/O	N/O	N/O	N/O	N/O	N/O	N/O	N/O	22(N/O	N/O	N/O	22(N/O
TOTAL VOCA.	248(218	180(70	278(193	122(165	81(66	104(103	92(104	53(38	89(107	462(487	314(174	471(403
H.S. ACADEMICS	23(22	19(23	14(16	24(17	11(12	14(18	29(24	51(23	49(30	76(63	81(58	77(64
TOTAL	271(240	199(93	292(209	146(182	92(78	118(121	121(128	104(61	138(137	538(550	395(232	548(467
[1]P/D STUDENTS	18(N/R[2]	83(N/R	52(N/R	40(N/R	50(N/R	35(N/R	95(N/R	35(N/R	25(N/R	153(N/R	168(N/R	112(N/R

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1. Person/Days divided by 60 teaching days in a session to give a student equivalent
2. Not Recorded
3. Not Offered
4. 1967

Plaques recognizing the contribution of Deans of Women (Matrons in the early years) and Deans of Men from 1927 to 1968 in the old dormitory were presented by the Alumni Association.

Class Valedictorian was Larry G. Weber, Castor.

Prizes for proficiency in various fields were awarded to eleven students.

Diplomas and certificates were awarded as follows:

	Diplomas	Certificates	Total
Agriculture Technology	44		44
*Horticulture Technology	10(4)		10
Irrigation Technology	14		14
**Business Education	2	19	21
Fashion and Design Techn. (Merchandising)	20		20
Total	90(4)	19	109(4)

*Ten horticultural technology students participated in graduation but only those who had completed summer assignments received diplomas.

**All business education students who passed received certificates.. Two who excelled in all subjects received diplomas.

High School Academics

Grade X11 subjects were taken as follows:

	Number of Students		
	Winter	Spring	Fall
Eglish 30	9	5	
English 33	2	1	
Social Studies 30		6	5
Mathematics 30	21	6	
Mathematics 31		4	
Chemistry 30		10	7
Physics 30	15		
Biology 30			9

At the end of the year 15 students were enrolled in the winter session which started on December 2 and ends March 15, 1969.

Publicity and Public Relations

A program of publicity and public relations was continued. This was carried out by means of press releases, feature articles, radio and television programs, Visitors' Day, career nights, career fairs, speaking at Home and School meetings, seminars for high school counsellors and distribution of a variety of printed material and closer co-operation with other educational institutions.

With the opening of the new residence, facilities were used by many groups for conferences, training courses and other functions. This afforded an opportunity to tell more people about college programs. Furthermore many individuals and groups came just to see the new residence and they too went away better informed.

Summary of Events

The college facilities were used extensively for educational meetings and conferences. A total of 86 such events, representing 14,393 person-days, were held at the Olds Agricultural and Vocational College.

Instructional and Administrative Staff

General

J.E. Birdsall, M.Sc., P.Ag. —Principal
E. O. Bryant (D.P.W.) —Maintenance Supervisor
Mrs. K. Chesney —Secretary
Mrs. D. Dallas —Clerk-Typist
R. E. Ewing —Accountant
G. B. Harrison, B.Sc., P.Ag. —Librarian
Mrs. A. Krahn —Stenographer
Miss Karen Kinniburg, Certificate, Bus. Educ., Olds —Clerk-Typist
Mrs. A. Sterling —Clerk-Typist
G. A. Ogston, Diploma Agric. —Farm Manager
K. R. Parker, B.Sc. —Assistant to the Principal and Guidance Counsellor
W. D. Ratcliff, B.Sc., P.Ag. —Director of Publicity
G. S. White —Administrative Officer

Residence Administration

V. Andrews, Diplomal Agric. O.A.V.C. —Assistant Dean of Men
S. Bennett (employed by Versafood) —Food Supervisor
Garth Racher, Dip. Ag., O.A.V.C. —Assistant Dean of Men
Mrs. M. Gravistin, C.N.A. —Dean of Women
Mrs. K. L. Hicks, R.N. —Nurse
A. A. Qually —Recreation Supervisor
R. P. Warrington, F.R.G.S. —Dean of Men
Miss A. Dredge, Cert. Bus. Ed. O.A.V.C. —Assistant Dean of Women
Miss J. McGonigal, Cert. Bus. Ed. O.A.V.C. —Assistant Recreation Supervisor

Instructors

Academics

H. Barber, B.Ed. —Math.-Science, Sr. Instr.
J. A. Loughton, B.Ed., M.Ed. —Social Studies-Sociology
D. A. Rix, B.Sc., B.Ed. —Math.-Science
R. P. Warrington, F.R.G.S. —Public Speaking
W. Woytuck, B.Ed. —English
M. A. Wriglesworth, B.Sc. —Math.-Science

Animal Science

J. E. Nielson, B.Sc. —Instructor
W. D. Ratcliff, B.Sc., P.Ag. —Instructor
S. B. Wilton, B.Sc., P.Ag. —Sr. Instructor

Business Education and Agri-Business

Mrs. B. Gough —Sr. Instructor-Bus. Ed.
Miss M. D. Grimson, Bus. Ed. Dip., O.A.V.C. —(Educational Leave)
E. Kasawal, B. Comm. —Agri-Business Technology
Miss D. Peters, Bus. Ed. Dip., O.A.V.C. —Instructor-Bus. Ed.

Farm Management

I. H. Hall, B.Sc. —Instructor
H. W. Sutherland, B.Sc. —Sr. Instructor

Farm Mechanics

J. Adams, B.Sc. —Farm Structures
W. M. Burton, B.Sc., P.Ag. —Sr. Instructor
R. S. Hamilton, B.E. —Supervisor-Irrigation Technology
R. G. McFadyen, B.E. —Instructor
D. G. Odell, S.A.I.T. Dipl. —Instructor
L. B. Seeger —Metal Work

Fashion and Design

Miss Jean Morrison, B.H.E.	—Instructor
Miss M. C. Wilson, B.H.E.	—Sr. Instructor

Plant Science and Soils

K. C. Betts, M.Sc.	—Instructor
B. J. Godwin, B.Sc., B.Ed., P.Ag.	—Supervisor of Horticultural Technology
R. A. Hill, B.Sc., B.Ed.	—Supervisor-Soils Technology
G. G. McCullough, B.Sc.	—Horticulture
K. R. Parker, B.Sc.	—Botany
D. A. Rix, B.Sc., B.Ed.	—Crops
M. J. Tsujita, M.Sc., P.Ag.	—Sr. Instructor

Lab. Assistants and Assistant Instructors

M. E. Damen, Ag. Dip., O.A.V.C.	—Mechanics
M. W. Fry	—Horticulture
C. M. Oxtoby	—Mechanics
W. Redgewell, Ag. Dip., O.A.V.C.	—Mechanics
D. Severtson, Ag. Dip., O.A.V.C.	—Soils

Mr. A. Massee (Farm Management) left at the end of March, Mr. S. Bernstein (Horticulture) left in May and Mrs. D. Robbins at the end of August.

Mr. N. Olsen assisted in the Animal Science division during the absence of Mr. J. R. Nielson on educational leave, finishing June 30.

Grounds and Plots

A cool wet spring resulted in a poor showing of campus plantings during the spring and early summer but a good showing in the late summer and fall. Despite disruptions by construction the campus was kept in a fairly attractive condition.

Vegetables were grown in the garden area and potatoes in the irrigation project with satisfactory yields.

Vegetable trials and potato seedling trials were conducted in co-operation with the Provincial Horticultural Station at Brooks. Tests of table and field corn varieties and Sorghum-Sudan Grass hybrids were also tested under the same co-operative arrangement.

Varietal trials of rye were grown in co-operation with the Lacombe Research Station.

Some expansion took place in the plantings in the horticultural nursery with commencement of a demonstration block of ornamentals.

Classroom material of cereal and forage crops were grown.

Irrigation Project

An irrigation project has been developed over the past three years. It consists of a dugout with a capacity of between five and six acre feet, 18 acres of land, half of which is levelled, a stilling basin structure and equipment for various types of irrigation including sprinkler which is used on the land that is not levelled.

The purpose of the project is to provide facilities for teaching and demonstration.

The land used in 1968 was as follows:

Potatoes	3 acres	Husky Barley	7½ acres
Silage Corn	½ acre	Dwarf Essex Rape	7 acres

Because of a wet summer results were not significant but the purpose of the project was still achieved.

The irrigated area is used for soil studies as well. These include fertility studies, water well and piezometer measurements.

College Farm

The growing season was dry until mid-July after which precipitation was so high as to cause loss of part of the hay crop and difficulties during harvest. First cutting of hay was light, yielding about ¾ of a ton per acre. The second cut proved better in quality and yield. Because of adequate sub-soil moisture, cereal crops were not seriously affected by the early dry spell. After the rains the crops came on to produce above average yields.

Summary of Crops Harvested

Crop	Acreage	Yield
Wheat	60	3,360 bus.
Oats	80	7,240 bus.
Barley	150	10,500 bus.
Hay	200	250 tons.
Silage	40	160 tons.
Pasture	190	

The beef cow herd is being increased by the addition of crossbred heifers. The advantage of the crossbreeding program is evident in the quality and performance of these females.

A confinement trial was carried out with the enlarged dairy herd which indicated some distinct advantages for this type of herd management.

To implement a three-way crossbreeding program with swine, a Hampshire boar and a Lacombe Boar were purchased. For the present, the Yorkshire herd is being maintained.

A Suffolk ram was purchased from a local breeder and a polled Dorset was brought in from Ontario. Both animals have a high performance index.

Performance testing was continued with all breeds of livestock on the farm.

A new Swine Studies building was completed and has been in partial use since April.

Six cattle sheds and corrals have been constructed in accordance with the farmstead redevelopment plan.

Plans were completed and feeder cattle purchased to start a feeder cattle project.

Inventory of livestock as of December 31, 1968:

Holsteins	65 head
Shorthorn and crosses	70 head
Sheep	135 head
Swine	238 head
Feeder cattle	92 head

Farm sales for year ending December 31, 1968:

Livestock	$26,100.00
Dairy Products	12,280.65
	$38,380.65

VERMILION AGRICULTURAL AND VOCATIONAL COLLEGE

The Vermilion College continued to provide a varied and needed service during 1968. Regular program registrations did not indicate any significant trends but the general college function is changing rapidly to facilitate the accommodation of a student body with a wider range of educational background and ability levels. The most recent and highly significant development was the introduction of vocational preparatory courses. These courses not only prepare students of all ages for trades level training entry, but provide the general education necessary to continue to higher levels of general education and technical training entry at the various post-secondary institutions in the province. This essentially sets the pattern for the college in its major programs.

Special Lectures and Visitors

The college attempts to supplement the regular programs of instruction with well qualified speakers who are specialists in their field. During the course of the year, many such persons are called on to address the students as a body or to address a special class. The close proximity of the regional extension office and the excellent liaison which exists between the college and this office provides an added source of specialist personnel.

During the year many hundreds of people visited the campus and were provided with the opportunity to visit classrooms and to learn of the college's function.

Graduation

The annual graduation exercises were held Friday, June 28, 1968. Among the many guests present, the following participated in the exercises: The Hon. H. A. Ruste, Minister of Agriculture; Dr. E. E. Ballantyne, Deputy Minister of Agriculture; Father Campbell; Rev. S. Errett; Mr. S. S. Graham, Director of Extension and Colleges; Mr. W. J. Collin, Co-ordinator, Agricultural Education and Mr. B. McDonald, President of the Alumni Association. The Rev. S. Errett presented the address to the graduating class.

Diplomas and certificates were presented as follows:

	Diplomas	Certificates	Total
Agricultural Technology	20	8	28
A.I. Technicians		13	13
Home Economics	4	6	10
Business Education		12	12
Hog Production		11	11
Appraisal and Assessment		12	12
	24	62	86

In addition 37 students completed various subjects for high school credit during the academic year.

The Alumni Association joined with the graduating students for the evening supper and Rose Ball which followed.

Scholarships and Assistance to Undergraduates

Industry, organizations and interested individuals continue to show a keen interest in young people and their need for further training. Scholarships to reward high achievement at the undergraduate level and bursaries to encourage young people to pursue further training at the college are made available. During each session a Color Night is organized by staff and students when donor and recipient have the opportunity to meet and for acknowledgements.

Loans, Remissions and Prizes available through the Student Assistance Act continued to be instrumental in providing training opportunities for a large number of students who attended the college.

New Programs and Revisions

G. A. Boggs of the Mechanics Division was instrumental in the development of a new course to be offered in the 1969 academic year. The course entitled "Building Materials Merchandising Technology" is designed to train men for the retail industry in building materials and to provide managerial potential. A very active and knowledgeable advisory committee under the chairmanship of Mr. M. R. Leask, Marketing Manager, Beaver Lumber Company Ltd., was organized to assist in the development of the course.

The Advisory Committee on A.I. reviewed the existing three month program in animal reproduction and recommended that the existing program be discontinued and in its place two types of programs be introduced.

1. A one-month course to train students in the techniques of insemination in order to meet immediate needs.
2. A four session program in animal reproduction technology whereby students will obtain comprehensive training in the theory of animal nutrition, reproduction and husbandry as well as the techniques of insemination.

The technology program was instituted in the fall session 1968 while the one-month program will be offered in March of 1969.

Courses in agriculture, home economics, business, general and continuing education are under review. The objective is to develop a more flexible program structure which would facilitate meeting immediate and long range educational needs.

The Fire Officer Training School is developing its facilities on the college campus with the addition of an Administration Building and paving of the area surrounding the training tower.

The working relationships between the College and the Provincial Fire Commissioner's office are most cordial and effective.

The Alumni Association continued to provide support and maintained active interest in its alma mater. Three successful reunions at the college, scholarships and a tape recorder for student union use are some of the more tangible indications. The Edmonton Branch also continued to maintain contact, social activities in the Edmonton area, and distributed a comprehensive newsletter to all the membership.

W. S. Baranyk resumed duties as principal on September 1, 1968, following a year's leave for professional improvement at the University of Illinois. Mr. L. G. Seath is commended for the manner in which he served as acting principal.

Non-College Events

The demand for use of college facilities is increasing rapidly. This demand is particularly strong for meetings and short courses of an educational nature in agriculture and non-agriculture areas. During the past year 10,161 person-days were recorded. This does not include programs mentioned elsewhere in this report and is equivalent to an additional 56 full time students for each of three sessions or 169 students attending for one session.

The above total includes adult classes in business education, St. John Ambulance Association First Aid Certificate Course, sewing classes, N. E. Alberta Hospital Association Seminar, one week seminar-field trip experience for teachers from Thailand, regional extension short courses, 4-H meetings as well as many other programs and events of a similar nature, serving the needs of the community which the college serves.

In addition, the college hosts many visitors from all parts of Canada and other countries who are interested in its operation.

Staff Off-Season Activities

Extended summer leave and leave for professional improvement continued to provide the college staff with opportunities to upgrade themselves. During the past year Mr. G. A. Boggs received his Alberta Teaching Certificate, Mr. D. Bell a certificate for inservice training in pedagogy, Mr. W. S. Baranyk a M.Ed. degree in vocational technical education from the University of Illinois. Currently Mr. K. M. Stone is attending the University of Montana at Missoula pursuing post-graduate work, primarily in range and pasture management.

Grounds and Plots

The Summer of 1968 was by no means ideal for grounds maintenance. Heavy rains delayed a major program of sidewalk construction and road renovation; therefore, large areas of the campus centre were prepared for seeding and landscaping next spring. The grounds staff managed to maintain the grounds presentably and to raise all the necessary plant materials for classroom work. The college was fortunate in obtaining the services of Mr. H. Wefel, formerly with the Saskatoon Parks Department, on staff as Grounds Supervisor.

Maintenance Program

The D.P.W. maintenance staff continued a vigorous and effective program of preventive maintenance. In addition, a healthy liaison with the grounds staff resulted in a very timely and necessary preparation of large parts of the campus centre for seeding. Large volumes of earth were made available and levelled; additional decorative and screen type fencing was provided. The exterior of the student residence was repainted and an outdoor skating rink for student hockey practice and recreation constructed.

College Farm

Spring moisture was very low due to a very dry fall in 1967 and below average snowfall during the winter. Temperatures were cool. Wheat was seeded May 3, oats May 8, and barley May 17. Germination of grain crops was uneven. Hay crops were short and light.

Unusually heavy rains in July and August produced much second growth in grain crops and delayed haying operations. Hail July 20 greatly damaged cereal crops, some up to 100 per cent. The wet weather with cool temperatures continued through harvest season resulting in heavy green swaths and slow drying conditions. Considerable grain in the area was not harvested or else harvested in tough condition. Frosts in September damaged most grain for seed quality.

Cropping Program

	Acres	Yield
Wheat	13	200 bus.
Oats	101.5	4,092 bus.
Barley	37	2,145 bus.
Hay, 1st cut	107	58 tons.
Silage	84	399 tons. (2nd cut hay incl.)
Fallow	38	
Pasture	87	

Livestock Inventory — December 31, 1968

Dairy Cattle	31	Swine	93
Feeder Steers	21	Poultry	370
Beef Females	15	A.I. Cows	46
Sheep	70		

Farm Sales January 1, 1968 to December 31, 1968

Milk and Cream	$ 8,177.29
Poultry and Eggs	1,290.34
Livestock for slaughter	
Dairy and Beef	6,882.03
Hogs	4,518.44
Sheep	539.52
Livestock for breeding	130.00
Miscellaneous	100.00
Total	$21,637.62

Publicity and Public Relations

The College made ten appearances on CKSA T.V. last year. The programs were primarily of an extension nature to the public served by the station. In addition, numerous tapes were prepared for broadcast over CKSA Lloydminster and CFCW Camrose. The Vermilion Standard provides excellent coverage for college activities. The interest and co-operation of these media is most welcome.

A number of instructional staff were involved in career fairs as well as manning booths at the area Class B Fairs. The demand for staff to participate at various field days and public meetings increased.

Relationships between the Regional Extension office located on campus and college staff are most cordial and an effective reciprocal working arrangement has resulted in the development of adult evening classes in welding, sewing and first aid. Such programs will be diversified and developed to provide a greater service to the community. The organizing of a Continuing Education Department at the college will provide an organizational basis for continued expansion in this field.

Enrolment for the year was as follows:

	Winter		Spring		Fall	
	M	F	M	F	M	F
1st Session Agriculture	21				23	
2nd-4th Session Agriculture	55	1	17		20	
Animal Reproduction	13	1				
Home Economics Diploma		7		7		9
Home Economics Certificate		9		9		9
Commercial	2	13		13	2	23
Grade XII Subjects	23	2	11	1	7	7
Fire Officers*			23			
Appraisal and Assessment (3 wks.)			12			
Hog Production			11			
Agriculture Certificate			12		6	
Totals	114	33	86	30	68	48

*7 one-week courses averaging 23.

Staff Changes

Commercial Instructress, Miss K. F. Orton, resigned and was replaced by Mrs. J. G. Bentson.

Commercial Instructress Miss A. M. Pinder resigned to attend University; replaced by Mrs. M. A. Bell.

Mr. D. E. Robins, Instructor in Farm Business Management, resigned to accept a position with Canada Packers. Replaced by Mr. C. R. Klaibert.

Mr. D. H. Dewar, Instructor in Plant Science, assumed the position vacated by Mr. K. M. Stone, on leave for professional improvement.

Mrs. D. R. Westman resigned and was replaced by Mrs. F. L. Kaiser.

Mr. O. W. Clouston, Accountant, assumed the position as Recreation Director for the Town of Vermilion; replaced by Mr. P. Yaceyko.

Instructional and Administrative Staff 1968:

W.S. Baranyk, B.Sc., M.Ed., P.Ag.	—Principal
D. W. Bell	—Metals
G. A. Boggs	—Structures
P. E. Yaceyko	—Accountant
H. A. Cross (Mrs.), R. N.	—Nurse
G. J. Daugela, B.S.A., B.Eng., P.Ag.	—Mechanics
A. F. Earle, B.P.E.	—Recreation, Academics
H. J. Earle, B.Ed.	—Academics
M. J. Fallas	—Administrative Officer
B. A. Fulks (Miss) Dipl. H. Ec.	—Home Economics
S. E. Geake	—Dietitian
R. M. Gratz, B.Sc., P.Ag.	—Animal Science
J. F. Harcus, B.Sc., B.Ed., P.Ag.	—Animal Science
J. A. Harrison (Miss)	—Receptionist
R. D. Heller	—Farm Manager
M. Hynek, Dipl. Agr.	—Mechanics
E. H. Horton, B.Sc., P.Ag.	—Plant Science
J. P. Jeffers, B.S.A., M.S.A., M.C.S.A.E.	—Mechanics
D. R. Westman (Mrs.)	—Secretary
A. Klar, B.Sc., P.Ag.	—Plant Science
E. Larson (Mrs.)	—Home Economics
C. A. Robins (Mrs.), B.Sc.	—Home Economics
M. A. Bell (Mrs.)	—Business Education
J. Bentson (Mrs.)	—Business Education
T. J. Quirk	—Dean of Men
N. Carey, (Mrs.)	—Dean of Women
O. Stangeland	—Maintenance Supervisor D.P.W.
R. V. Stredwick, B.S.A.	—Animal Science
A. E. Wiebe, B.S.A.	—Farm Business Management
M. J. Wright (Mrs.), B.Sc.	—Home Economics
L. G. Seath, B.Sc., B.Ed., P.Ag.	—Assistant Principal, Farm Business Management
C. R. Klaibert, B.S.A.	—Animal Science
C. Dewar, B.S.A.	—Plant Science
K. M. Stone, B.Sc., P.Ag.	—Plant Science (on professional improvement leave)
H. Wefel	—Grounds Supervisor
E. Wasylik	—Academics
L.M. Peterson (Mrs.)	—Librarian
M. I. Moses (Mrs.)	—Clerk-Stenographer
R. D. Tidsbury	—Caretaker-Supervisor

FAIRVIEW AGRICULTURAL AND VOCATIONAL COLLEGE

Nineteen sixty-eight was the year of consolidation and completion of campus facilities that were under construction in 1967. On September 20, 1968, the Honorable H. A. Ruste, Minister of Agriculture, the Honorable F. C. Colborne, Minister of Public Works, and the Honorable H. E. Strom, Minister of Municipal Affairs, took part in the official opening of the Farm Structures and Farm Machinery Lab., Girls' Residence, the Plant Science Building, the Animal Science Laboratory, the Central Heating Plant, and the Campus Maintenance Building.

A modest adult education program is under way with some evening classes, adult upgrading during the day time, and with a number of short courses. This year a two-week short course for farmers from the Tangent area was held and similar classes will be conducted in 1969.

The first students completed the one-year certificate course in agriculture in June of 1968. The second one-year certificate course commenced in the fall of 1968, and was well received by the students taking it.

Apprenticeship training courses in welding and motors have been reduced somewhat. The Fairview Agricultural and Vocational College now gives the first year apprenticeship motors course and special motor courses only. Only special courses in welding are being offered as the need arises.

Nineteen sixty-seven saw a reduction in the number of students entering the first year diploma agricultural course but this trend has reversed in 1968, with a modest increase of about 25 per cent in the first year diploma course.

The arrangement with the Fairview High School concerning academic students continued to receive wide acceptance. There continued to be an increasing demand for academic training; the numbers at the moment are limited to the accommodation available in the Fairview High School.

Extension and Publicity

Fairview College continued to enjoy excellent relationships with all news media. Radio Station CKYL in Peace River and Radio Station CJDC in Dawson Creek continued to give free time on their farm broadcasts, on the basis of one five-minute broadcast per week.

The Principal of the Fairview College has participated in high school career events and career fairs at Rocky Lane, Grande Prairie and Peace River and at the Peace River Fair, and has addressed a number of 4-H clubs with regard to opportunities at the Fairview College.

The five top students of the 1968 graduating class in agriculture visited the Vermilion College and the Olds College during March of 1968.

The Progressive Farming Days program was held at the Fairview Agricultural and Vocational College this year, and received very good support from the public. Over 2,000 people visited the college and the campus during a three-day period. This brought many people to the campus for the first time. High school groups from Dawson Creek and Fort St. John have visited on several occasions at the college, as well as local high school groups for specific instruction or for tours of the buildings. These have been well received by students and their teachers.

Meetings, Tours and Other Events

College facilities were made available to many organizations during the past year. Staff and students were involved in a few of the events. There were 94 events and this represented approximatly 7,402 person-days.

Instructional and Administrative Staff, 1968

J. A. R. Palin, B.Sc., B.Ed., P.Ag. Prof. Cert.	—Principal
G. E. Bryce, B.Sc., P.Ag.	—Agricultural Mechanics
J. D. Ell, B.A.	—Dean of Men
David Enns, B.Sc.	—Horticulture
M. I. Enns, (Mrs.) A.D. (Bus. Ed.)	—Business Education
D. A. Fleming	—Recreation Director
J. P. Fraser, A.D. (Ag.)	—Laboratory Assistant
M. J. Grove, (Mrs.)	—Secretary
D. M. Hoel (Miss)	—Registrar
L. M. Jackson (Mrs.)	—Dean of Women
I. Johnston (Mrs.)	—Librarian
L. T. Jones, B.S.A.	—Animal Science
V. R. Kushner (Miss), A.D. (Bus. Ed.)	—Stenographer
J. T. Lancaster, B.Sc., P.Ag., Prof. Cert.	—Plant Science
R. E. Lloyd	—Accountant
W. D. Mahood (Mrs.)	—Nurse
J. A. McIntosh	—Farm Manager
H. E. McLachlan, B.Sc., P.Ag.	—Animal Science
W. B. McNaught B.Sc., P.Ag.	—Agricultural Mechanics
H. E. G. Petersen	—Motor Mechanics
J. P. Tait, B.Sc., Prof. Cert.	—Farm Management Vocational Academics
J. L. Volk	—Farm Structures
J. H. Warne, B.Sc., B.Ed., P.Ag., Prof Cert.	—Farm Management Vocational Academics
L. M. Wendelboe	—Welding
M. A. Wilkesman (Mrs.)	—Dietitian
S. Zilke, B.A., B.Ed., Ph.D., P.Ag., Prof. Cert.	—Soils

Guest Lecturers

The following visitors were guest lecturers for various college classes:

Dr. P. Pankiew, Research Station, Beaverlodge, Alberta.
Mr. R. W. Shopland, Secretary, Alberta Sheep Breeders Association, Edmonton, Alberta
Mr. Cliff Stacey, Research Station, Beaverlodge, Alberta.
Mr. Jack Debolt, Northland Utilities, Edmonton, Alberta.
Mr. Roy Schneider, Area Representative, New Holland Co., Peace River.
Mr. Lionel Montpetit, Public Relations, Alberta Wheat Pool, Grande Prairie, Alberta.
Mr. Leon Martin, Royal Bank of Canada, Fairview, Alberta.
Dr. A. A. Guitard, Research Station, Beaverlodge, Alberta.
Mr. Jim Elliott, Regional Crop Insurance Inspector, Fairview, Alberta.
Mrs. B. Kuntz, Fairview, Alberta.
Mr. R. Skrypichayko, Northern Field Representative, Canada Pensions, Edmonton, Alberta.
Mr. Frank Graves, Regional Co-ordinator, ARDA, Fairview.
Mr. G. Volk, Farm Credit Corporation, Fairview, Alberta.

Staff Changes

A series of temporary Deans in both the girls' and boys dormitories ended with the appointment of Mrs. L. M. Jackson and Mr. J. D. Ell.

Miss E. L. A. Zajac resigned as Commercial Instructress to take other employment. Her position was filled by Mrs. M. I. Enns.

Mr. T. E. Sydness, Animal Science Instructor, resigned to take a position with the federal government. His position was abolished.

Graduation

Graduation exercises were held in the college Gymnasium on June 26, 1968. Guest speaker was Rev. R. J. Pierce, Bishop of Athabasca, of Peace River, Alberta. Rev. Fr. Herbst gave the invocation and Miss Victoria Kushner of High Prairie was valedictorian. Mr. J. E. Hawker, Director of Agricultural and Vocational Colleges, presented diplomas and certificates as follows:

	Diplomas	Certificate	Total
Agricultural Technology	21		21
Certificate Agriculture		9	9
Business Education	4	11	15
	25	20	45

Summary of Courses and Attendance 1967-68

	Winter	Spring	Fall
Agriculture — Diploma	41		38
Agriculture — Certificate	12	11	9
Business Education	18	18	17
Academics	31	31	49
Motor Mechanics	11 & 8*	13	
Agricultural Mechanics			5
Night Class Welding	8		
Apprenticeship Welding	9*		
Special Arc Welding	8	10	
Adult Up-grading			20
Land Appraisal		4	
Mathematics 30 (Adult)	8	8	
Chemistry 30 (Adult)			6
Total	154	95	144

*Denotes Second Year.

Farm

Produced on the Farm

Silage	150,000 pounds	6,000 pounds/acre
Green Feed	146,000 pounds	4,424 pounds/acre
Hay	40,000 pounds	2,000 pounds/acre

Livestock Inventory (As of December 31, 1968)

Kind	Breed	1967	1968
Dairy Cattle	Holsteins	18	17
Beef Cattle	Aberdeen Angus	50	43
	Shorthorn	1	1
	Shorthorn x Angus Cross	1	1
	Charolais x Angus Cross	4	4
	Hereford x Angus Cross		2
	Hereford		5
Feeder Steers	Mixed Breeds	50	58
Poultry	California Greys	224	
Swine			1
Sheep	Suffolk	43	45
	Hampshire	4	3
	Cross-bred	96	74

Farm Sales — Year ending November 30, 1968

Poultry	$ 150.49
Dairy Products	4,656.03
Sheep	3,350.94
Feeder Cattle	12,757.64
Cattle	7,147.66
Feeder Sheep	2,020.32
Wool	212.12
Total Sales	$30,295.20

The livestock numbers have increased with the addition of five head of Hereford females and an increase in the number of feeder cattle.

Very active participation in all livestock enterprises on the farm has been shown by college students.

The poultry flock has been discontinued, but a start made back into swine with the acquisition of a boar.

No particular problems have arisen with any farm stock over the past year. The slat floor lamb rearing building was put into operation with wide-spread interest being shown in this work.

A very practical new beef barn has been completed and is in use.

REPORT OF THE PLANT INDUSTRY DIVISION

A. M. WILSON, B.A., B.Sc., M.Sc., P.Ag., Director
O. G. BRATVOLD, B.Sc., P.Ag., Head, Field Crops
J. W. EDMUNDS, B.S.A., P.Ag., Supervisor, Apiculture
S. A. YELLAND, B.Sc., P.Ag., Supervisor, Cereal & Oilseed Crops
R. M. TRIMMER, B.S.A., P.Ag., Regional Plant Industry Supervisor — Lethbridge
R. W. NELSON, B.Sc., M.Sc., P.Ag., Regional Plant Industry Supervisor — Fairview
E. L. TREFFRY, B.Sc., P.Ag., Regional Plant Industry Supervisor — Vermilion
W. LOBAY, B.Sc, M.Sc., P.Ag., Head, Weed Control & Municipal-Plant Industry Programs
S. C. POWERS, B.Sc., P.Ag., Supervisor, Weed Control
A. W. GOETTEL, B.Sc., M.Sc., P.Ag., Head, Soils
D. C. PENNEY, B.Sc., P.Ag., Supervisor, Soil Fertility
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REPORT OF THE DIRECTOR

The current year was the extreme opposite of 1967 when grain crops were seeded very late yet ripened and were harvested early. Seeding was early but germination was slow and uneven. Dry weather prevailed through May, June and most of July, followed by late rains in August and September. Throughout Alberta all stages of growth and maturity prevailed at harvest time. Much of the grain was harvested tough or damp. Frost on August 12 reduced quality of large quantities to 5, 6 and feed grades. In spite of all difficulties in harvesting, the per acre yield was 2 to 3 bushels above the long time average.

Adverse harvesting conditions also prevailed in Manitoba and Saskatchewan. As a consequence, large quantities of tough and damp grain have been farm stored because of limited grain sales to export markets. Estimated sales of the toughs and damps appeared far short of quantities held on farms and farmers were left to devise means of preventing losses in farm storage bins. Grain dryers were used reluctantly because of extra costs that might not be recovered for considerable time.

The abundance of wheat in the world trade and competition for world markets has left the western farmer with large quantities of grain on hand with little prospect of sales in the near future. It appeared that in spite of a three bushel damp grain quota and increased use of grain for livestock, approximately 30 million bushels of out of condition grain would still be on farms and should be dried to avoid complete spoilage.

The following table gives acreages and yields of principal crops with 1967 comparisons.

	Area		Yield per Acre		Production	
	1967	1968	1967	1968	1967	1968
	-'000 ac.		-bu.-		-'000 bu.-	
Wheat	6,380	6,460	22.7	25.7	145,000	166,000
Oats	1,960	1,960	40.8	48.0	80,000	94,000
Barley	4,280	4,650	31.3	38.3	134,000	178,000
All rye	160	114	19.4	21.1	3,100	2,400
Flaxseed	145	285	11.7	15.1	1,700	4,300
Mixed grains	361	360	36.0	39.7	13,000	14,300
Peas, dry	10	13	27.4	25.0	274	325
Rapeseed	875	450	13.9	15.1	12,200	6,800
			-cwt.-		-'000 cwt.-	
Potatoes	22	24	142.9	135.2	3,200	3,300
			-lb.-		-'000 lb.-	
Mustard seed	114	148	675	851	76,950	126,000
			-tons-		-'000 tons-	
Tame hay	2,875	2,740	1.39	1.17	4,000	3,200
Sugar beets	33	39	12.95	15.05	434	590

CROP INSURANCE

Crop insurance was extended to the Counties of Warner, Stettler, St. Paul, Paintearth, Barrhead, Red Deer, Lac. Ste. Anne and the Municipal Districts of Cardston, Bonnyville, Willow Creek and Improvement Districts No. 139 and No. 134.

The balance of the Counties of Lethbridge, Wheatland and Ponoka were also included.

A separate insurance report by the Corporation was tabled in the Legislature. The following is a summary of insurance operations for the years since the inception of the program.

	Insured Farmers	% Eligible Farmers	Insured Acreage	Premium Paid by Farmers	Risk Carried	Indemnities Paid
1965	1,312	45	250,000	$ 232,000	$ 3,230,000	$ 48,000
1966	4,408	50	984,000	802,000	13,460,000	312,000
1967	9,892	54	2,271,000	1,934,000	38,020,000	1,250,000
1968	15,657	57.5	3,904,894	3,436,043	63,718,937	4,500,000

Canning Peas were also insured. 102 policies were written covering 4,925.6 acres.

FIELD CROPS BRANCH

GENERAL

Widespread frost throughout the north half of the Province during August, followed by persistent wet weather through the fall, resulted in a lot of low grade, high moisture grain. Harvesting continued until early December in some areas.

When harvesting finally ground to a halt, there was an estimated 5 percent of the crop still in the fields. Most of this was in the north Peace, north eastern Alberta and the Red Deer to Olds area of central Alberta. It was estimated that about 200 million bushels of grain was out of condition on Alberta farms.

After allowing for feed requirements and limited deliveries to elevators, about 100 million bushels of tough and damp grain were expected to remain on farms by April of 1969. A campaign by this Department, the Grain Trade and Farm Organizations was launched to encourage farmers to use farm dryers in saving this grain. Late in December the Canada Department of Agriculture announced an extension of the Cash Advances Act to provide additional funds up to $600.00 per farm, calculated on the basis of 10c per bushel, for the purpose of drying grain.

A small export market and an abundance of low grade, high moisture grain resulted in a buyers market for feed grains. Wheat sold as low as $1.10 per bushel and barley as low as $.50 per bushel. Lack of markets also stirred farmers' interest in other crops, hoping these would be more marketable. Cultivated buckwheat was introduced in a small way on a contract basis. Mustard acreage was increased in areas where this crop was suitable. Dwarf Mexican wheats were given widespread publicity and licensing urged on the assumption that higher yields could make these wheats more competitive on world markets, regardless of quality The Canada Department of Agriculture remained firm in its requirement that low quality wheats could not be licensed unless the grain was distinguishable from high quality hard red spring wheats.

REGIONAL PLANT INDUSTRY SUPERVISORS

Regional Supervisors served the southern, north eastern and Peace River areas in the Province. In general, they acted as resource personnel for the extension service, administered divisional programs on a regional basis and were an integral part of the regional planning team. Their activities were intensified in 1968, as this new organizational concept became more developed.

In the southern region irrigated specialty crops occupied much of the Supervisior's time. Liaison with commodity groups was an important function in this highly diversified crop area.

The emphasis was on soil work in the Peace region, where soil fertility and tilth is a major production problem. About 50 percent of the Supervisor's time was devoted to soils. A major program initiated in 1968, in co-operation with the Beaverlodge Research Station, Canada Department of Agriculture, was a pasture management project designed to investigate different management practices and their economics as they relate to Peace River conditions.

Region 5, north eastern Alberta, has a wide variation in soil type, much of it poor quality. In addition, this area has a high livestock population. Consequently, the heaviest demands on the Supervisor's time was on problems relating to soils, forage crops in the crop rotation and weed control.

PEDIGREE SEED PRODUCTION

Cereals and Oilseeds

The following table summarizes the estimated yields in bushels of cereals and oilseeds inspected for registration and certification.

	1966	1967	1968
	- thousand bushels -		
Wheat	1,961	1,211	1,113
Oats	824	597	1,375
Barley	1,609	686	1,091
Flax	105	93	67
Rye		25	18
Rapeseed		15	40
Mustard		.2	.8

Breeder Seed Distribution

Below is a summary of allocations of Breeder seed recommended by the Stock Seed Distribution Committee.

Wheat	lb.	Oats	lb.	Barley	lb.
Canthatch	20	Fraser	150	Betzes	72
Chinook	20	Garry	150	Centennial	96
Manitou	120	Grizzly	30	Conquest	24
Park	30	Harmon	30	Galt	96
Saunders	60	Rodney	30	Gateway 63	36
Thatcher	100			Jubilee	48
Winalta	80	Total	390	Olli	48
		Rapeseed	lb.	Paragon	684
Total	430	Echo	74	Parkland	24
Rye	lb.				
Cougar	40	Total	74	Total	1,128
Total	40				

A total of 2,062 lb. was distributed.

Forage Seed

The table below is a summary of reported acreage of grass and legume crops inspected for registration or certification:

Grasses	Variety	1966	1967	1968
Kentucky Bluegrass	Merion	89	45	35
	Park		10	510
Bromegrass	Carlton	584	962	940
	Fisher	155	234	184
	Manchar	45	45	85
	Redpatch	88½	362	570
	Saratoga	462	880	820
Creeping Red Fescue	Boreal	2½	196	410
	Duraturf	40	45	75
	Olds	1,271	1,490	753
	Pennlawn	496	102	85
Meadow Fescue	Ensign	60	110	60
	Mimer	333	196	
Orchardgrass	Chinook	155	95	95
Reed Canarygrass	Frontier	4	15	15
Perennial Ryegrass	Norlea	235½	769	629
Russian Wild Ryegrass	Sawki	71	360	340
Timothy	Astra	77	90	
	Bounty		42	50
	Champ		11	31
	Climax	7,545	5,451	5,256
	Drummond	663	395	

Grasses	Variety	1966	1967	1968
Crested Wheatgrass	Fairway	80	165	524
	Nordan	1,108	1,315	1,660
	Summit	63	117	319
Intermediate Wheatgrass	Chief	40		
Pubescent Wheatgrass	Greenleaf		18	18
Streambank Wheatgrass	Sodar	328	128	110
Tall Wheatgrass	Orbit			40
Legumes — Alfalfa	Beaver	628½	635	534
	Ladak	10		
	Rambler	289	405	459
	Roamer			102
	Vernal	317	367	319
Birdsfoot Trefoil	Empire		20	
	Leo		34	58
	Viking		2	78
Alsike Clover	Aurora		127	313
Red Clover	Altaswede	2	35	30
	Dollard	25	68	
	Lakeland		50	60
	La Salle	77½	77	74
White Clover	Ladino	110	30	

Distribution of Basic Forage Seed

Breeder and Foundation seed of Canadian forage varieties continued under the control of the Canadian Forage Seed Project. The Project is conducted by representatives from each of the provincial departments of agriculture, the seed trade, grower organizations and Canada Department of Agriculture, with the latter being the co-ordinator and contracting entity in the operations of the project. The Field Crops Branch represented Alberta on this committee.

All Breeder seed was distributed on the basis of contract production of the ensuing crop. Foundation seed was distributed on an approximately 50-50 basis between the seed trade and the provincial departments collectively.

The following quantities were distributed by the Field Crops Branch.

Breeder:

Magna bromegrass	25 lb. — 10 acres
Foundation:	
Aurora Alsike	100 lb.
Beaver Alfalfa	150 lb.
Champ Timothy	675 lb.
Climax Timothy	175 lb.
Greenleaf Pubescent Wheatgrass	425 lb.
Norlea Perennial Ryegrass	500 lb.
Orbit Tall Wheatgrass	200 lb.
Rambler Alfalfa	100 lb.
Redpatch Brome	200 lb.
Sawki Russian Wild Ryegrass	175 lb.

Forage Seed Production (non-pedigree)

Total forage seed production declined somewhat in 1968 but it affected prices very little. Markets for most kinds remained relatively weak reflecting the change in Europe, in particular, from use of common kinds to named varieties of their own breeding. Similarly the trend to more locally adapted improved varieties in eastern Canada and the United States reduced demand for western grown common seed.

A very short crop was experienced in sweet clover and Russian wild ryegrass.

The following table gives forage seed production of most kinds in the years 1966 to 1968 inclusive, with preliminary estimates for 1968.

	1966	1967	1968
	— thousand pounds —		
Alfalfa	371	1,250	1,256
Alsike Clover	7,500	8,800	5,500
Red Clover	6,500	5,500	4,550
Sweet Clover	2,100	1,700	2,600
Kentucky Bluegrass			100
Bromegrass	3,000	2,500	3,850
Creeping Red Fescue	12,500	8,000	14,700
Meadow Fescue			460
Russian Wild Ryegrass	300	200	64
Timothy	3,000	1,500	1,100
Crested Wheatgrass	600	475	950
Pubescent Wheatgrass			70

IMPROVEMENT PROJECTS

Forage improvement was supported in the main by the ARDA Soil & Crop Management Project. In 1968 this project was included as a part of the Agricultural Service Board General Agreement.

The program provided for financial assistance to farmers where it was demonstrated that increased forage acreage would improve the farmers' net economic return. The farmer agreed to follow a planned crop rotation in order to qualify. The assistance, which amounted to 50 percent of the value of the forage seed up to a maximum of $70.00, was shared equally by the federal, provincial and local municipal administration. In 1968 a total of $100,887.66 was issued by the Field Crops Branch, 50 percent of which was reimbursed by the Federal government.

Project D:

Under this project, seed of cereal and forage crops was made available to district agriculturists without cost for their use in demonstrating the value of improved kinds and varieties of crops. However, only 190 lb. were distributed, indicating a lack of interest in this project.

ALBERTA CEREAL AND OILSEEDS ADVISORY COMMITTEE

The committee reviewed research data and recommended the following changes for the bulletin "Varieties of Cereals & Oilseeds for Alberta 1969":

1. Delete Garnet wheat, Husky barley, Abegweit oats and Cree and Redwood flax.
2. Add Paragon barley and Norland flax to the lists of described varieties.

3. Galt barley be used as the standard for comparison of barley varieties.

4. Centennial, Compana and Palliser barley varieties be classed as eligible for feed grades only.

5. Describe the problem of immaturity in the late Argentine types of rapeseed when grown in the north and west areas of Alberta and the inability to separate the seeds of the Polish and Argentine types of rape and the three main mustard types.
6. Delete reference to soft white spring wheat.

The committee considered data on Mexican wheats in irrigated and dryland tests. The variety Pitic 62 was considerably higher in yield and very much poorer in milling and baking quality than Manitou.

The committee recommended deferral of licensing for the following reasons:

1. Data was limited to one year's test. Limited data shows high yield, low milling and baking quality and late maturity.

2. Licensing on the basis of pressure from press releases should be discouraged.

3. Several other domestic and introduced varieties compared to Pitic 62 are better suited to Canadian production.

4. Pitic 62 as a feed wheat will be competing against barley and data have not shown it superior to present high yielding barley varieties. Pitic 62 is approximately 25 days later maturing than Galt.

5. Seed stocks of Pitic 62 practically non existent commercially and no pedigree stocks are available for initial distribution.

Alberta Forage Advisory Committee

This committee met in October and reviewed current work in forage crops. It was noted that subsequent to a brief initiated by the committee two years ago, concerning instruction and research in forage crops at the University of Alberta, the Plant Science Department in 1968 initiated a "Genetics and Plant Breeding" section. The new section is to have initially a complement of three professionals.

The committee was advised that a new variety of sainfoin would be released shortly by the Lethbridge Research Station.

It was reported that alfalfa seed production in southern Alberta had made substantial progress. Since the introduction of the leaf-cutter bee, Megachile rotundata, yields as high as one thousand pounds per acre were recorded. The committee noted that a major problem was the management of the alfalfa fields and a project to prepare a bulletin dealing specifically with this problem was established.

Seed Dealers Act

Twenty seed dealers were licensed under the act.

Agricultural Relief Advances Act

Assistance in the form of loans for the purchase of seed, fuel, etc., was provided in five improvement districts as follows:

Improvement District No. 126	— $ 847.42
Improvement District No. 132	— 12,786.61
Improvement District No. 134	— 37,468.19
Improvement District No. 139	— 37,889.82
Improvement District No. 147	— 7,477.74
Total	$96,469.78

Seed Control Areas Act

Pure Seed Control Areas were established in rapeseed producing districts to prohibit the growing of cultivated mustard species. The following areas were declared established in 1968:

Municipal District of Wainwright No. 61 Seed Control Area
Improvement District No. 131 Seed Control Area
Fairview Seed Control Area
Municipal District of Smoky River No. 130 Seed Control Area
County of Athabasca No. 12 Seed Control Area

Municipal Co-Operative Seed Cleaning Plants

Three new plants were built in 1968 at Clive, Enchant and north of Coaldale, bringing the total to 65.

The Alberta Co-operative Seed Processors held their annual meeting in Edmonton in January and seven regional plant meetings were held in June. Operations were reviewed and improvement shown in volume processed and in financial and policy structure. Plant feasibility studies were requested from seven communities and the construction of two plants in 1969 was approved in principle.

Following is a summary of grain cleaned and treated in the past two fiscal years (Year ending June 30).

	1966-67	1967-68
Total Commercial Seed Cleaned	15,303,985	16,840,716
Total Pedigree Seed Cleaned	312,271	243,557
Total Seed Cleaned	15,616,256	17,084,273
Total Dockage Cleaned	2,606,831	1,660,860
Total Bushels Cleaned	18,223,087	18,745,113
Total Bushels Treated (Fungicide)	6,019,518	6,385,037
Total Bushels Treated (Insecticide)	1,155,834	1,192,948
Average Number of Bushels Cleaned per Plant	303,718	302,341

A number of the plants have consistently cleaned in excess of 500,000 bushels per year and all have had a marked beneficial effect on the quality of seed sown in their area.

The following table sets out the years in which the 65 municipal plants were built, along with approximate grant and total cost.

Year Built	Location	Approx. Size of Grant	Approx. Cost of Construction	Approx. Capacity
1948	Camrose	$13,000.00	$42,000.00	16,000 bu.
1949	Westlock	13,000.00	39,700.00	17,000 bu.
1949	Wetaskiwin	13,000.00	38,000.00	18,000 bu.
1949	Morinville	13,000.00	14,100.00	19,000 bu.
1951	Marwayne	13,000.00	38,800.00	10,500 bu.
1952	Vegreville	13,000.00	39,900.00	10,500 bu.
1952	Mundare	13,000.00	38,100.00	10,500 bu.
1952	Rosebud	13,000.00	35,000.00	20,000 bu.
1953	Strome	13,000.00	41,000.00	10,500 bu.
1953	Vermilion	13,000.00	44,000.00	10,500 bu.
1953	Willingdon	13,000.00	43,500.00	10,500 bu.
1954	Myrnam	13,000.00	41,700.00	10,500 bu.
1954	Paradise Valley	13,000.00	40,000.00	10,500 bu.
1954	Lougheed	13,000.00	43,000.00	10,500 bu.
1955	Stony Plain	14,000.00	39,200.00	10,000 bu.
1955	Leduc	14,000.00	41,000.00	10,000 bu.
1955	Blackie	15,000.00	41,000.00	10,000 bu.
1956	Balzac	15,000.00	45,500.00	10,000 bu.
1957	St. Paul	15,000.00	45,200.00	10,000 bu.
1957	Strathmore	15,000.00	45,400.00	10,000 bu.
1957	Beiseker	15,000.00	46,400.00	10,000 bu.
1957	Fincastle (Taber)	15,000.00	47,100.00	10,000 bu.
1957	Alliance	15,000.00	47,400.00	10,000 bu.
1958	Innisfree	15,000.00	47,300.00	10,000 bu.
1958	Wainwright	16,000.00	47,100.00	10,000 bu.
1958	Radway	16,000.00	46,000.00	9,000 bu.
1958	Vulcan	16,000.00	50,000.00	9,000 bu.
1958	Three Hills	16,000.00	46,800.00	9,000 bu.
1958	Sexsmith	$16,000.00	$46,800.00	9,000 bu.
1959	Nanton	16,000.00	48,400.00	9,000 bu.
1959	Carmangay	16,000.00	50,000.00	9,000 bu.
1959	Okotoks	16,000.00	50,000.00	9,000 bu.
1959	Innisfail	16,000.00	50,000.00	9,000 bu.
1959	Bashaw	16,000.00	50,000.00	9,000 bu.
1960	Queenstown	17,000.00	51,000.00	9,000 bu.
1960	Stettler	17,000.00	51,000.00	9,000 bu.
1960	Provost	17,000.00	51,000.00	9,000 bu.
1960	Barrhead	17,000.00	51,000.00	9,000 bu.
1960	Holden	17,000.00	51,000.00	9,000 bu.
1960	Falher	17,000.00	51,000.00	9,000 bu.
1960	Rycroft	17,000.00	51,000.00	9,000 bu.
1961	Craddock	17,000.00	51,000.00	9,000 bu.
1961	Carstairs	17,000.00	51,000.00	9,000 bu.
1961	Bentley	17,000.00	51,000.00	9,000 bu.
1962	Delia	17,000.00	51,000.00	9,000 bu.
1962	Ponoka	17,000.00	51,000.00	9,000 bu.
1962	Grimshaw	17,000.00	51,000.00	9,000 bu.
1962	Fairview	17,000.00	51,000.00	9,000 bu.
1963	Granum	17,000.00	52,000.00	9,000 bu.
1963	Gibbons	17,000.00	52,000.00	9,000 bu.
1964	Medicine Hat	18,000.00	54,000.00	9,000 bu.
1964	Coronation	18,000.00	54,000.00	9,000 bu.
1964	Warburg	18,000.00	54,000.00	9,000 bu.
1964	Dawson Creek, B.C.	5,000.00		
1965	Nampa	20,000.00	60,000.00	9,000 bu.
1965	Olds	20,000.00	60,000.00	9,000 bu.
1965	Oyen	20,000.00	60,000.00	9,000 bu.
1966	Edgerton	20,000.00	60,000.00	9,000 bu.
1966	Forestburg	20,000.00	60,000.00	9,000 bu.
1966	High Prairie	20,000.00	60,000.00	9,000 bu.
1967	Milk River	24,000.00	75,000.00	9,000 bu.
1967	Boyle	24,600.00	75,000.00	11,100 bu.
1968	Enchant	25,000.00	75,000.00	9,000 bu.
1968	Coaldale	25,000.00	75,000.00	9,000 bu.
1968	Clive	25,000.00	75,000.00	8.500 bu.

Seed Drill Survey

A comprehensive random sampling program was conducted during May and June by district agriculturists and agricultural fieldmen. Samples were analysed by Plant Products Division, Canada Department of Agriculture, private analysts and this Division.

The purpose of the survey was to determine the purity and quality of seed sown in Alberta, as well as gather information relative to seed source, class, cleaning, treatment, etc.

The following table summarizes findings and compares them to results of past provincial surveys.

			Percentage			
Year	No. of Districts	No. of Samples	No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
1928	23	1,225	13.3	15.4	22.3	49
1949	23	1,939	21.5	10.0	17.5	51
1953	15	1,199	33.0	12.0	17.5	37.5
1968	38	2,971	59.9	16.4	(Discont'd)	23.7

Treatment and Quality:

Seed Treatment (Per cent)

No. of Samples	2,794
Insecticide	7
Mercury	57
Other Chemicals	12
Not Treated	30

Seed Quality (Per cent)

No. of Samples	1,225
Good	57
Fair	33
Poor	10

The Royal Agricultural Winter Fair

The Department continued its policy of assisting exhibitors at the Royal Agricultural Winter Fair, Toronto.

Alberta winners in 1968 were:

World Championships		
Wheat (Chinook)	Harold E. Hansen	Vulcan
Oats (Harmon)	Denis A. Rondeau	Bonnyville
Seed Potatoes (Netted Gem)	T. Fujimoto & Sons	Rainier
Cooking Potatoes (Netted Gem)	T. Fujimoto & Sons	Rainier
Championship — Pedigree grain		
Wheat (Chinook)	F. J. Schultz	Coutts
Reserve Championships		
Wheat (Chinook)	C. Deurloo	Granum
Barley, 2-row (Compana)	M. Jussila	Medicine Hat
Pedigree Grain — Oats (Grizzly)	F. Coykendall	Camrose
Rye (Tetra Pekus)	A. Giffen	Okotoks
Flax (Noralta)	J. Scriba	Grande Prarie
Grass Seed — Brome (Carlton)	J. Scriba	Grande Prairie
First Prizes		
Hard Red Winter Wheat (Winalta)	C. Greeno	Lethbridge
Red Clover	E. Lepage	Nampa
4-H Wheat (Chinook)	Bob Anderson	Kathyrn
Pedigree Barley — 2-row	F. J. Schulz	Coutts
Pedigree Barley — 6-row	J. Scriba	Grande Prairie

Apiculture

General

The beekeeping industry was distressed by a large carry-over from 1967. As a result, production declined and returns to individual beekeepers were lower. Estimated production for 1968 was eight million pounds, less than 50 per cent of the 1967 crop. Colony count was estimated at 100,000 compared to 120,000 for 1967, and colony yield was also down. Inclement weather during the nectar flow period and reduced acreages of legumes were the main reasons for low colony yields.

Marketing was a major problem during most of the year; however, by the end of the year low production in all major honey producing areas in Canada strengthened prices. It was estimated that the surplus would disappear completely before the next crop.

World markets strengthened, but it was noted that low cost honey was available from China, Australia and Mexico, where the cost of production appeared to be much below that of Canada.

Package Bee Conditions

Queen and colony losses were low in 1968, but considerable dissatisfaction still existed with regard to quality of imported queens and package bees from the United States.

There were 3,000 colonies of bees taken in the fall of 1968 to British Columbia for wintering. This was about 33 per cent more than in 1967. These were equally distributed in three main valleys of British Columbia; Creston, Okanagan and the lower Fraser Valley. Based on previous experience, it was assumed that when divided these colonies would produce the equivalent of 15,000 packages. Advantages of wintering in British Columbia:

(a) better control of stock,

(b) less cash outlay,

(c) lower total cost.

About one-quarter of a million pounds of honey was used to winter the 3,000 colonies.

United States federal government personnel and producers of package and queen bees showed more concern for quality of stock.

Marketing Study

The Supervisor of Apiculture spent considerable time investigating public attitudes toward honey. This was done in co-operation with local beekeepers associations, the department product promotion specialist, and a private marketing research firm. The results indicated a real need for product promotion. A promotion program was suggested to the industry.

Disease Inspection

Inspection of colonies for disease was difficult in 1968 for two main reasons:

(a) inclement weather

(b) lack of competent part-time inspectors.

	1967	1968
No. of apiaries inspected	1,804	1,079
No. of colonies inspected	15,447	6,993
No. of apiaries infected with American Foulbrood	206	91

No cases of European Foulbrood were reported.

	1967	1968
Queens sampled for Nosema apis	145	94
No. of infected queens	99	10

Statistics

	*1967	**1968
Number of colonies	120,000	100,000
Number of beekeepers	1,375	1,500
Average yield per colony (lb.)	139	80
Total honey production ('000 lb.)	16,668	8,000
Value of honey ('000 dollars)	2,416	1,080
Average price of honey per lb.	14½c	13½c
Average price per lb. of beeswax	60 c	65 c

*Final

**Estimated

Leaf-Cutter Bees (Megachile rotundata)

The population of leaf-cutter bees continued to increase; however, a cool, rainy season prevented a large increase in total numbers. Poor harvesting weather gave extremely varied results in the production and harvesting of alfalfa seed. Production from some fields was a total loss due to high winds either thrashing the crop or blowing away the swathed crop. Nevertheless, yields of alfalfa seed were estimated to average about 500 pounds per acre where good management techniques were applied.

Styrene cells were tested. These were more easily handled due to weight differences and cells were more easily removed; however, some molding occurred in the styrene cells under excessive moisture conditions.

WEED CONTROL AND MUNICIPAL-PLANT INDUSTRY PROGRAMS BRANCH

General

Weed control activities were determined considerably by the extremely variable weather. Very dry conditions existed in most areas until mid-July. This resulted in variable germination of weeds, especially wild oats. In central Alberta, however, light showers in early June resulted in good germination of green foxtail which became a serious weed problem.

Broad-leaved weeds emerged over a large period of time and their slow growth during the spraying season made chemical control difficult. In spite of this a reduction in weed growth on treated fields was obvious this fall. July rains brought on a heavy emergence of stinkweed, lamb's-quarters, chickweed and mustards.

Extremely wet harvesting conditions reduced the amount of chemical and cultural field work done in the fall on stubble and fallow fields. It was impossible in many cases to complete an intended program of thistle control on fallow fields.

Weed Inspection and Enforcement

(a) Agricultural Fieldman In Municipalities

The agricultural fieldman force, which assumes weed inspection responsibilities and services, has now expanded to 58 full-time employees, 16 full-time assistants and 78 part-time inspectors. These operate in municipal districts, counties and improvement districts where Agricultural Service Boards or Agricultural Committees are organized.

(b) Weed Inspection in Improvement Districts

Eight weed inspectors were appointed by the department in improvement districts where no Agricultural Service Boards are organized but where there is a fair amount of farming. The inspectors were supervised by the Weed Control Branch and paid out of the I.D. Trust Funds. Some difficulties were experienced in obtaining personnel.

(c) Weed Inspection in Cities, Towns and Villages

There were 222 weed inspectors employed in urban areas. In a number of cases municipal weed inspectors were appointed by the urban centres located within the municipality.

A weed control school was organized for the City of Edmonton to train the inspection force. Topics covered were weed identification, control methods and public relations. A number of demonstrations were set out in the outskirts of Edmonton, Calgary and Lethbridge to provide first hand information for city inspectors on proper use of herbicides for various weed species.

(d) Regional Plant Industry Supervisors

Three regional Plant Industry supervisors located at Fairview, Vermilion and Lethbridge assisted in setting up practical weed control programs including weed extension activities, and in directing municipal supervisors in carrying them out.

About 20 per cent of the activities of the regional staff were in various aspects of weed control. One noteworthy activity, and the first of its kind, was a weed control school especially designed for ditch-riders at Lethbridge.

(e) Official Notices Issued Under the Noxious Weeds Act

The following table shows the number of official notices served by weed authorities to rural land owners in municipalities. (1963-67 records are listed for comparison.)

Year	No. Notices to Destroy Weeds	Acres Affected	No. Notices to Prohibit Seeding	Acres Affected	No. Notices Prohibiting Threshing	No. Court Cases
1963	2,145	41,859	617	25,394	8	11
1964	1,759	35,992	624	24,701	5	10
1965	1,664	43,274	567	20,880	5	3
1966	1,373	38,655	598	15,110	4	3
1967	1,365	42,028	375	17,256	7	1
1968	1,125	41,327	678	17,611	4	1

It is noteworthy that seeding was prohibited on 17,611 acres of cultivated land. This was due to serious weed infestations where control measures were not taken as directed by the inspectors.

(f) The Noxious Weeds Act

There were no amendments made to this act in 1968.

Arrangements were negotiated with the Inspection Service Branch, Attorney General's Department for the inspectors to enforce sections of the Weeds Act dealing with scattering of weed seeds on highways by open trucks.

Weed Surveys

(a) Persistent Perennial Weeds

The continuing annual surveys by Agricultural Service Boards indicate the following approximate infestations:

Weed	1967 Farms	1967 Acres	1968 Farms	1968 Acres	Some Areas Showing Heavy Investation
Field Bindweed	517	6,465	513	6,486	Lethbridge, Taber
Hoary Cress	510	5,913	301	5,721	Lethbridge, Cardston
Leafy Spurge	228	4,377	235	4,569	Cardston, Provost
Russian Knapweed	82	453	74	383	Lethbridge, Claresholm
Toadflax	5,955	105,316	5,839	73,378	Throughout Province

The significant decrease in toadflax infestation may be due to an incomplete survey.

Sodium chlorate and borate-chlorate compounds were used extensively but there was a significant increase in the use of picloram (Tordon) on non agricultural land including roadsides and pastures.

(b) New Weeds and Weeds of Increasing Importance

Cow cockle was reported on many sandy fields and heavier clay soils.

Persian Darnel continued to show up as a problem grass weed in parts of Peace River.

Corn spurry was reported from the Lacombe, Edmonton and Morinville regions and is becoming a problem in many areas.

Green foxtail increased significantly in the province and concerned many farmers.

Stork's-bill appeared in a number of areas in the Provost-Cadogan area.

Chemical Weed Control

(a) Selective Herbicides

Approximately 8,259,000 acres of cereal crops (about 62 per cent) were treated with 2,4-D and/or MCPA. This is an increase of 1,584,000 acres over last year.

MCPA, 2,4-D and related compounds were the main herbicides used. Ester formulations continued to take the lead again but amine formulations increased by 18 per cent over last year. The use of herbicides such as dichloroprop (Estaprop), dicamba (Banvel 3), and bromoxynil (Buctril M and Brominal M) continued to increase where "hard to kill annual weeds" were a problem. The higher cost of these newer herbicide mixtures is holding down their use.

TCA and Dalapon for green foxtail control again increased but the treated acreage still is relatively small.

There were 576,000 acres treated with wild oat chemicals compared to 470,000 acres in 1967.

A total of 28,642 miles of municipal roads were sprayed for weeds and 3,966 miles for brush control. About 1,800 miles of irrigation ditches were treated with selective sprays.

Fifteen Agricultural Service Boards continued to distribute herbicides to farmers. There is a continuous decrease in this service as local distributors such as elevator companies and oil company bulk stations increase services.

(b) Soil Sterilants in Municipal Weed Control Programs

Soil sterilants continue to be used for eradication of patches of persistent perennials but in decreasing amounts as new selective herbicides are introduced. Soil sterilants were purchased in carload lots and resold to municipalities at cost.

(c) Spray Equipment

Estimated number of farmer-owned sprayers in Alberta is about 26,000. Sprayer schools continued to be conducted and are always popular — 6 were held in June. Intensive spraying schools conducted by Gulf Oil Ltd. (Carbyne application), Allied Chemical Services (Brominal M application), and others were all very well received by the farmers. Municipal fieldmen calibrated 481 sprayers this year as a service to farmers.

Weed Control With Forage Crops

Under this policy, the department shared equally with the farmer the cost of forage seed for use on weedy land to a maximum of 30 acres. Some 200 farmers used this project to seed 40,000 pounds. This project will be merged with other forage policies in succeeding years.

Weed Control on Crown Land

Municipal agricultural fieldman and improvement district weed inspectors investigated and took action on many weed problems on Crown land. As a result, some unoccupied Crown land was leased to adjoining land owners with special lease concessions granted by the Department of Lands and Forests. In four cases, expenses incurred in controlling weeds were paid by the Department of Agriculture totalling about $500.00. This sum is subject to recovery when the land is sold.

Investigations to determine the best way to control weeds along lakeshores was continued at Miquelon Lake for the fourth year. Preliminary information reported by the Plant Science Department, of the University of Alberta, indicated it is possible to eliminate thistle growth with picloram used in small amounts. The weed growth was replaced by wild barley and other grasses.

Roadside Weed Control

(a) Municipal Roads

Most municipalities have adopted a policy of backsloping and seeding roadsides with a suitable forage mixture to control weeds and prevent erosion. The extent of this project since 1963 is shown below:

	1963	1964	1965	1966	1967	1968
Miles sloped and seeded	2,587	2,770	2,883	2,371	2,824	2,379

The department assisted in this program by supplying 69,600 pounds of seed as a special grant to 58 municipalities for this purpose.

There were also 27,034 miles of roadsides mowed.

(b) Government Highways

The Department of Highways continued to expand its program of roadside seeding and spraying weeds on the right-of-way. The following is the extent of the spraying done by the department:

	Main and Secondary Highways		Distr. and other roads in Improvement Distr.	
	Miles	Acres	Miles	Acres
Weed Spraying	1,747	12,575	1,291	8,894
Brush Spraying	49	1,178	4	20

Alberta Weed Advisory Committee

This committee, composed of persons representing research institutions, industry and this department, is advisory to the Minister through the Alberta Agricultural Co-ordinating Committee. The Branch Head is the Secretary.

The eleventh meeting was held December 9, a week following the National Weed Committee (Western Section) meeting held in Winnipeg. The Advisory Committee accepted the report and recommendations of the National Weed Committee and added that departmental publications should make mention of the availability of triallate in both the liquid and granular form and to carry warnings regarding the residual effects of picloram. They recommended the use of picloram for patch treatment of perennial weeds on non-crop land and for patch treatment on crop land when the product is registered for this use.

The committee also made recommendations regarding the need for a weed specialist in the branch; the development of a botany section in the Crop Clinic; representation on the committee dealing with the proposed Agricultural Chemicals Act; consultation with the Veterinary Services Division regarding livestock poisoning by herbicides; the need for professional staff to deal with claims and litigations arising from misuse of herbicides; the relaxation of regulations concerning the use of selective herbicides near public bodies of water and the approval for the use of extension publications on weed control prepared by commercial agrologists.

Agricultural Service Boards

Through 58 service boards and committees, municipalities have taken a more positive role in weed control and related agricultural programs. A board was formed in Improvement Districts 146 and 147 with headquarters at High Level. Grants were provided to assist various weed programs and projects. The ARDA Land Reclamation Project operative in the province for 4 years has significantly assisted expansion of local weed programs in reclaiming weedy land.

Most of the weed control work in municipalities was conducted by Agricultural Service Boards (Agricultural Committees in counties). Provincial weed work, including regulatory and educational aspects, were closely associated with these boards.

Because of weed situations, Agricultural Service Boards placed 1,224 quarter sections of land under supervision. Sixty-nine were held from previous years and 17 parcels were released from supervision. Eighteen parcels were placed under reclamation, with six continuing from 1967. Ten were released in 1968.

The ARDA Land Reclamation Project continued to operate through Agricultural Service Boards. Assistance in the amount of $150,000.00 was fully utilized. This project was outlined in the 1964 Annual Report.

The ARDA Soil and Crop Management Project came under the service board general agreement in 1967 and was utilized by 28 municipalities in 1968.

The Field, Roadside and Farm Shelterbelt Plantings ARDA Project also came under the agricultural service board agreement with assistance available to all municipalities wishing to participate in this program.

Seed Cleaning Plant Permits

Under the guidance of this branch, municipal agricultural fieldmen have inspected, rated and issued permits to all qualifying seed cleaning plants doing custom cleaning. A new score card was established and a number of schools held to instruct inspectors in proper rating of plants. There are a total of 220 stationary and portable seed cleaning plants in the province.

Extension and Training

One of the main functions of this branch is to provide farmers with the latest information on weed control methods and to train and update departmental and municipal field personnel in the technical aspects of weed control.

Information to farmers is provided through publications, four of which were prepared and distributed; radio and television programs and press releases; meetings, short courses and chemical schools with branch participation in 60 of these functions. Field demonstrations and tours to view these sites continue to be a very effective method of extension in weed control.

Training of field personnel was conducted through in-service training courses for department personnel, regional weed inspector schools for municipal personnel and a ditch riders school in the irrigation area.

A one week pesticide course at the Olds Agricultural and Vocational College was arranged for and attended by commercial applicators to meet the qualifications required to obtain a license.

Additional subject matter training was provided to municipal personnel at agricultural service board regional and provincial conferences.

A paper was presented by the supervisor at the North Central Weed Control Conference in Indianapolis, Indiana, on "Weed Control through Agricultural Service Boards". A weed essay competition sponsored by the conference was won by Miss Marilynn Naundorf of St. Paul, Alberta. Miss Naundorf was awarded a $300.00 scholarship.

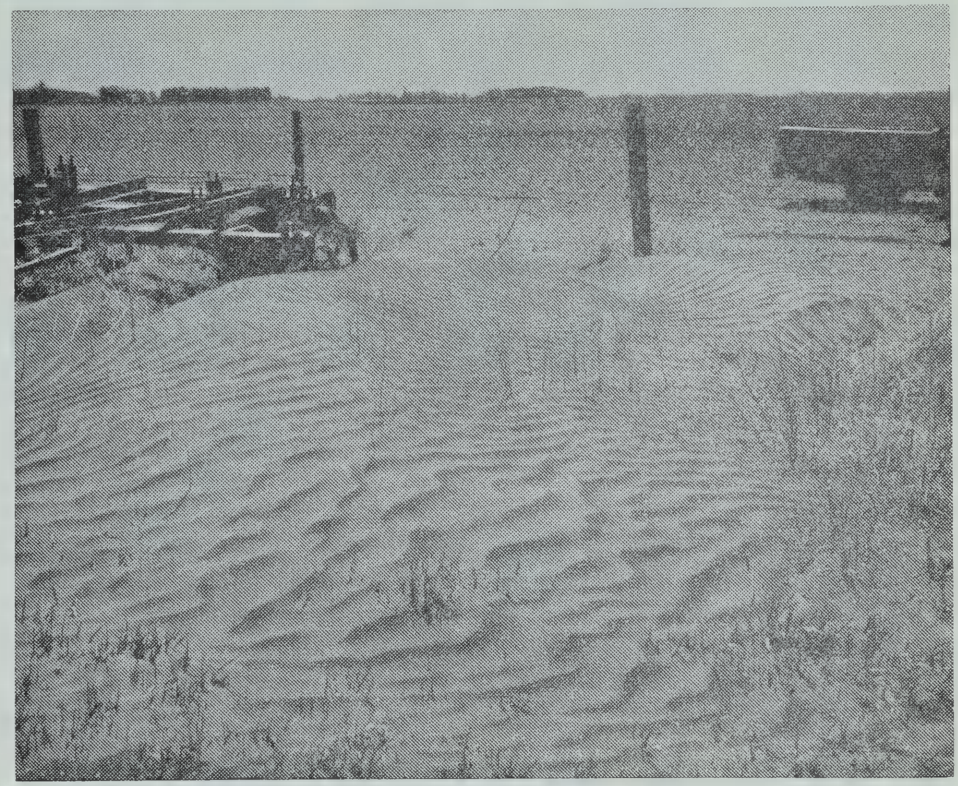
SOILS BRANCH

General

Serious soil drifting occurred on many fallow fields in central and northern Alberta during late April, May and early June. This soil erosion was the result of a combination of an extremely dry previous fall and winter, high winds and excessively worked summerfallow land.

Many areas in central Alberta recorded the driest 12 months in history for the period July, 1967 to June, 1968. Field investigations indicated that the soil on fallow land was excessively pulverized causing it to be moved easily by winds. The double disk used at high speeds was found to be the main cause of pulverizing the soil. Considerable publicity on the seriousness of soil drifting and necessary control measures was beamed at the farming public through radio, press, letters and television. This branch was somewhat concerned by apparent lack of emergency control measures adopted by farmers in central Alberta. Soil conservation officers in municipalities were supplied with regulatory procedures, technical information and responsibilities of officers and farmers.

An annual survey indicated that wind erosion was considerably more serious in 1968 than in many previous years. Thirty of the 49 municipalities reported that wind erosion damage was more serious in 1968 than in 1967 and it was estimated that damage occurred on 7,800 quarter sections of land compared to 325 in 1967. This represents about 1.25 million acres or 20 per cent of the total acreage in summerfallow in Alberta.



Typical Results of Soil Drifting in Central Alberta in 1968

Water erosion losses were at a minimum as a result of little spring run-off. Erosion damage was noted on approximately 580 quarter sections compared to 1,070 in 1967.

The annual survey conducted through service boards also showed that approximately $124,000 was spent on soil conservation and reclamation projects on 760 farms. The farmers' share of these projects amounted to about $60,000. The municipalities contributed $18,000 and the provincial and federal governments share under various ARDA projects amounted to $46,000.

Administration

The administration of soil conservation programs and the soil and feed testing program continued under the Soils Branch. Soil fertility demonstrations and related applied research expanded in 1968 with the addition of staff and equipment. Two positions in the Soil Fertility section of the branch were filled. Mr. D. C. Penney joined the branch on January 1 as Supervisor, Soil Fertility and Mr. L. C. Davison started on August 1 as Soils Fieldman. In addition to extension duties and applied research programs they assisted with the Soil Testing Program when required. Considerable time was spent during the year in arranging the transfer of the Soil and Feed Testing Section from university administration to the department. A report on this section appears elsewhere in this report.

The branch head attended the National Soil Fertility Committee meetings held in Vancouver in February. A paper on soil pollution was presented at the meeting.

Branch staff has continued to be in demand on numerous advisory, consulting or technical committees. Among these are Conservation and Utilization Committee, Advisory Committee on Soils Technology Courses, Regional Agricultural Service Board Conferences, Committee on Agricultural Chemical Legislation, and Interim-Supervisory Committee of the Soil and Feed Testing Laboratory.

The Soil Reclamation Project, revised in 1967 to provide demonstrations in areas where there were no Service Boards, assisted 23 applicants with 4,600 pounds of forage seed in 3 District Agriculturists' areas. The crop rotation fertilizer demonstration at Silver Valley was continued as an applied research project demonstrating the use of legumes and fertilizer on grey soils.

Publications

The two publications on general fertilizer recommendations were reprinted. A new publication, "Methods of Fertilizer Application" publication No. 542 was printed for general distribution and also to accompany soil test reports. The leaflet "Farming Peat Soils" was revised by Mr. D. A. Dew, Lacombe Research Station, and printed as Publication No. 519. This branch, in co-operation with the Agricultural Engineering Branch and regional economist at Calgary, printed a new publication entitled "Farm Bulk Fertilizer Storage and Handling" No. 540/713. Information leaflets on the use and handling of anhydrous ammonia, safety and handling of granular fertilizers and nitrate accumulation as affected by fertilizer use were prepared for distribution to field staff. Numerous other releases and leaflets were printed for field staff use and to accompany soil test reports.

Alberta Soils Advisory Committee

This committee continued to be concerned with soils research in Alberta. An annual tour of research projects conducted by government and fertilizer industry personnel was held in late July. Research data results were not prepared as a compilation as in previous years. A new approach whereby summary or progress reports were presented on research projects was adopted. This approach will be invaluable in the preparation of extension publications.

Legislation

There were no changes or amendments to the Soil Conservation Act (1962). Only one notice was issued under the act compared to four in the previous year. Agricultural Service Boards indicated that 560 farmers were contacted during the year regarding soil erosion, top soil removal or stubble burning. There were

19 municipalities with by laws to control stubble burning under which 151 permits were issued. Twenty-one municipalities have now passed by laws regarding top soil removal, an increase of two over 1967. Forty-six permits were issued under top soil removal by laws. There were no court cases involving the Soil Conservation Act.

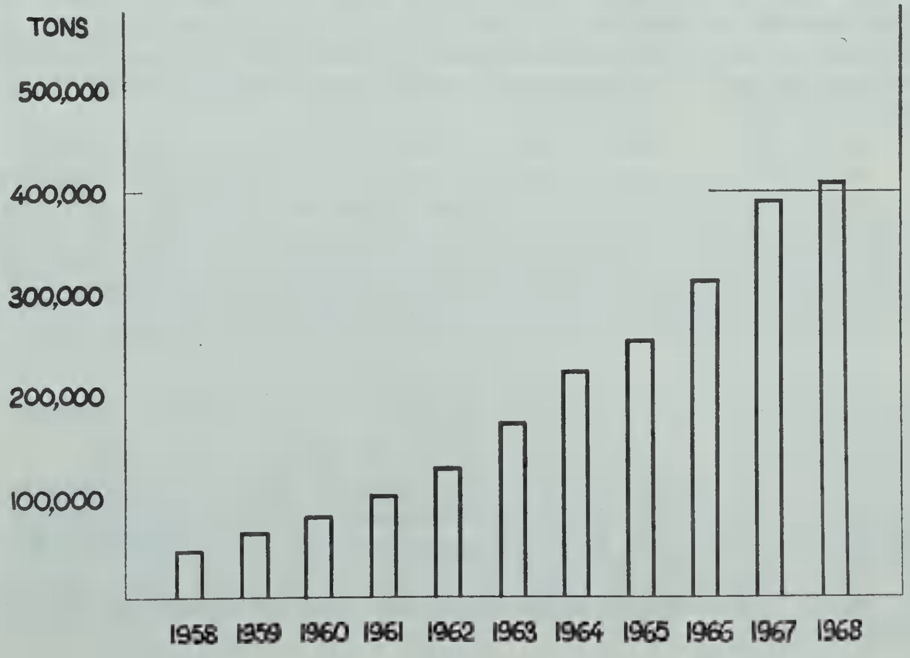
Soils Extension

The branch continued to provide technical and scientific agricultural information to farmers, chemical and fertilizer dealers, field staff, municipal agricultural committees, fieldmen and the general public. Information on management of soils, use of fertilizer and other amendments, conservation of soils, soil testing and related topics was disseminated through news and press releases, meetings, short courses, radio and television. There was considerable interest in fertilizer use. More than 30 farmers' meetings and short courses were conducted by branch staff. Regional supervisors and district agriculturists also conducted many soils and fertilizer meetings.

Fertilizer Use and Demonstration

Farmers continued to use more fertilizer on crops in Alberta than in previous years. Preliminary sales figures supplied by D.B.S. indicate about a 6 per cent increase over 1967. This rate of increase is down considerably from previous years, probably as a result of unfavorable soil moisture conditions at seeding time and a limited supply of capital. It should be noted that fertilizer sales (409,472 tons) as reported in the 1967 Annual Report were preliminary. Final total sales of fertilizer in Alberta for 1967 was 398,941 tons. The graph below shows the trend in fertilizer use in Alberta for the period 1958 to 1968.

FERTILIZER SALES IN ALBERTA



District agriculturists and agricultural service boards placed out nearly 200 fertilizer demonstrations on 140 farms. Yields were determined and results returned to their respective districts for use in assessing crop responses.

A survey conducted through agricultural service boards estimated 68 per cent of Alberta farmers use fertilizer, an increase of 2 per cent over 1967. The survey also indicates there are 198 fertilizer dealers having bulk fertilizer handling facilities compared to 120 in 1967. The number of dealers offering application equipment for rent or custom work increased to 473 from 430 the previous year. There were some 35 fertilizer dealers handling anhydrous ammonia. There was a large increase in use of anhydrous ammonia as a nitrogen fertilizer in central Alberta, but actual figures were not available.

This branch organized a demonstration project with the fertilizer industry. Under the auspices of the Western Canada Fertilizer Association, 5 fertilizer companies established test plots based on soil test results in the district agriculturists' districts of Two Hills, St. Paul and Vermilion. This project will continue for a number of years to properly assess fertilizer response, promote proper fertilizer use and to improve soil test correlations.

There was considerable interest in the potential use of fertilizer as indicated by inquiries from industries contemplating locating additional manufacturing plants in Alberta.

Soil Fertility Applied Research

A number of applied research projects were established in conjunction with the soil testing program to provide information on which to base recommendations. A project to evaluate broadcasting and working in phosphate fertilizer before seeding of legumes and grasses was started this year. Various rates of phosphate were applied at nine sites where forage crops were being seeded. Yields and soil test data will be obtained during the next 3 years to determine if this is a practical method of fertilizing forage crops.

Nitrogen strip tests were placed out to follow up soil test recommendations and to compare various fertilizer nitrogen sources such as anhydrous ammonia, nitrogen solutions and liquid manure. Nitrogen response was generally poor as a result of dry conditions during the early growing season. Thus it was impossible to make valid comparisons of the various sources.

Soil Sampling

Soil sampling was carried out at a number of locations to determine the variability of soil test values within a given field. Information from this type of sampling will help establish the number of samples required to obtain reliable soil test results and also will provide information for use at extension short courses.

Equipment

A 5-foot Gandy fertilizer spreader was purchased in late summer. This machine was then modified to apply fertilizer at a continuously increasing rate from 0 to 450 pounds per acre while travelling a distance of 500 feet. It will be used for applied research and demonstration plots on forage and cereal crops.

Soil Pollution

The pollution or contamination of soil in Alberta is not widespread; however, attention must be given to potential pollution of this important resource. Following a recommendation to the Alberta Advisory Committee on Pollution Control by this branch, a technical sub committee on soil pollution was appointed by the Chairman, Dr. J. Donovan Ross, Minister of Health. The branch head was appointed chairman of the sub committee. Other members on the sub committee from the department include Messrs. Gurba and Sadler and Dr. Whenham. The committee met for the first time in October. The sub committee was established to review and recommend on soil pollution problems and their control. The branch head presented a report on the activities of the newly appointed committee at the second annual meeting on pollution control.

Some preliminary investigations were conducted on the effect of sulphur dust on soil from loading operations at one gas processing plant.

AGRICULTURAL SOIL AND FEED TESTING LABORATORY

The staff of the laboratory was increased during 1968. Mr. G. O. Truscott joined the staff on June 1 as Supervisor of Computer Program and Records. Two technical and two clerical positions were also added to the laboratory staff.

The laboratory moved from the University of Alberta to the new O. S. Longman Building on October 1. This new government building will house several service laboratories and government agencies. Facilities available for the program of the laboratory have been greatly expanded and co-operation with other disciplines has improved.

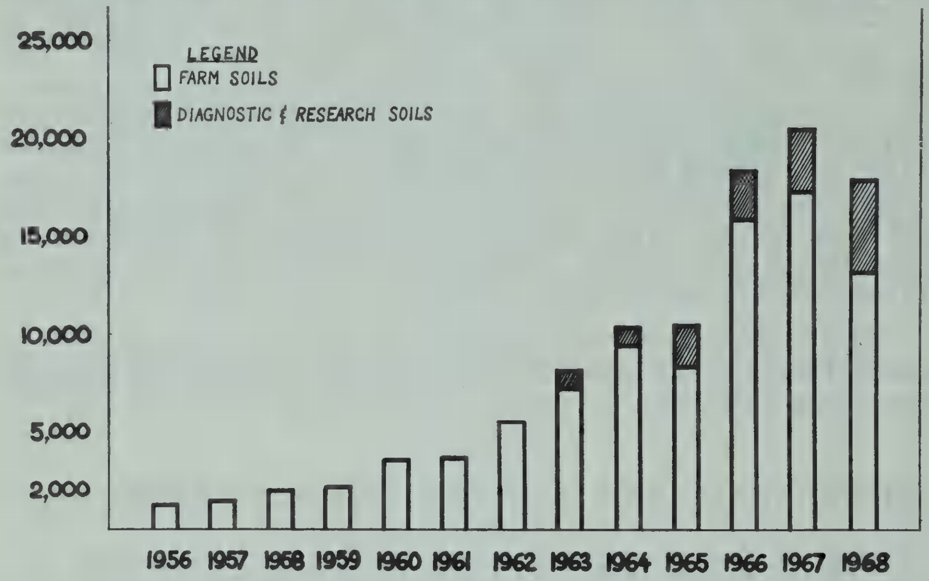
The problems of relocating the laboratory in the O. S. Longman Building resulted in considerable delays in processing feed samples submitted for analyses. However, greatly expanded space and facilities have increased the potential of the laboratory for service to Alberta agriculture.

Samples Received and Reports Issued

The total number of samples received by the laboratory decreased by 1,353 samples from 1967. The decrease was in numbers of soil samples, undoubtedly due to the late fall harvest. There was, however, a marked increase in samples submitted by fertilizer dealers on behalf of farmers. This assistance was of great benefit to farmers by providing sampling, drying and shipping services.

Feed samples increased by 1,070 samples from 1967. The fee increase introduced in 1967 had little or no effect on sample submission. Delayed maturity, early frost, and wet harvesting conditions resulted in large quantities of grains and cereal roughages of questionable quality for feeding purposes on Alberta farms. Samples of these feeds represented a large proportion of the feed samples tested in the last quarter of the year.

NUMBER OF SOIL SAMPLES ANALYSED BY ALBERTA SOIL & FEED TESTING LABORATORY



A breakdown of the samples received and reports issued during the year is given in the following tables. The first table gives a quarterly breakdown of samples received. The second table lists the type of feed materials tested and the third table gives the number of reports issued to persons submitting samples for testing.

Samples Received

Quarter	Feed	Farm Soil	Garden Soil	Green-house Soil	Total
Jan. 1 — March 31	558	3,097	21	83	3,475
April 1 — June 30	118	1,282	156	78	1,593
July 1 — Sept. 30	288	302	108	68	726
Oct. 1 — Dec. 31	1,633	10,148	44	61	11,886
Total for the year	2,597	14,829	329	290	17,680

Types of Feed Samples Analyzed

Quarter	Grain	Hay	Silage
Jan. 1—March 31	277	183	88
April 1 — June 30	64	29	22
July 1 — Sept. 30	64	106	29
Oct. 1 — Dec. 31	649	652	213
Total for the year	1,054	970	352

Reports and Recommendations Issued to Farmers

Quarter	Feed	Farm Soil	Garden Soil	Green-house Soil	Total
Jan. 1—March 31	230	814	17	33	1,094
April 1 — June 30	68	406	120	31	625
July 1—Sept. 30	163	99	60	30	352
Oct. 1 — Dec. 31	788	2,495	38	20	3,341
Total for the year	1,249	3,814	235	114	5,412
Average number of samples per report	2.1	3.9	1.4	2.5	3.3

A report on the feed sample recommendation service is included in the Animal Industry Division report.

Computer Program

The use of computer interpretation for soil test recommendations, started in 1967 has speeded up the reporting of soil test results. It has also provided a means of summarizing the valuable data obtained from testing farm soils.

During the year, data for over 40,000 soil test records prior to 1967 were transferred to the computer program. Work was started to develop programs for summarizing soil test data on a province-wide basis as well as for local problem areas. Programs have been developed to provide average soil test levels for a township, county, cropping area or the entire province. A mapping technique is also available to plot average data by legal location for the same regions. These programs have been developed to utilize the soil information from soil tests and place it in the hands of extension and research workers.

Research and Investigational Samples

Continued effort was made to improve soil test diagnosis and interpretation through co-operation with soil research workers and department projects. The laboratory tested 4,346 soil samples submitted under this program.

Also 240 feed samples and 450 soil samples were tested for district agriculturists and regional specialists to diagnose special problems.

Samples of feed and soil were collected and analyzed from the accidental chlorine release near Fort Saskatchewan. Exposure to chlorine fumigation caused no measurable effect on the feeds or soils sampled.

New equipment was installed including an atomic absorption unit and automatic analysis instruments. These instruments will be used to determine nutrient deficiencies for iron, boron, manganese, and others in soils, plant tissue and feeds. Investigational work was started using new methods and equipment to improve and expand the services of the laboratory.

CROP PROTECTION AND PEST CONTROL BRANCH

LIVESTOCK PESTS

Cattle Grubs and Lice

The use of systemic insecticides as a spray or pour-on treatment in the fall continued as an established practise for grub and louse control in beef cattle. A spring survey of the Forestburg test area showed that warble control in the central part was almost complete eight years after the project terminated. The organization of larger control areas was promoted.

The first compulsory warble control area, established in 1967 in Division 7 of the County of Wetaskiwin, was extended to the whole County. The department provided technical and financial assistance for organization and operation of this pilot project to exterminate the warble fly. The Lethbridge Research Station co-operated in evaluation. Fourteen area captains surveyed, recorded and checked for treatment of some 63,000 cattle on 1,650 farms. Late harvest delayed treatment of cattle but an estimated 75 per cent were treated in the fall.

Most Agricultural Service Boards provided sprayers for demonstration or service spraying and supervised treatment in community projects. There were 46 warble control associations reported operating and 10 organized voluntary control areas. Agricultural Service Boards reported they assisted with treatment of 2,566 herds. An estimated 719,300 cattle were treated for grubs and lice in 48 municipalities. The Meat Packer's Council carried out a carcass grub survey which showed that the packer loss varied from about $2.00 to $10.00 depending on grubs per carcass. Publication 653-6 "Warble Control" was reprinted and widely distributed in co-operation with the Animal Industry Division.

Other Livestock Insect Pests

The black fly project in the Athabasca area was continued in co-operation with the Lethbridge Research Station. The Athabasca River and its tributary streams were further surveyed to define breeding sites. Of the many species of black fly in the area, the most troublesome one, **Simulium arcticum,** was found to originate in the Athabasca River. Adult black flies were collected for the third summer from farm co-operators, together with data on numbers, outbreaks, damage and weather conditions. Several larvicides were field tested as safer replacements for DDT. A working committee held several meetings to coordinate operations of the several research and other agencies involved.

Several districts were assisted in programs for community control of houseflies and mosquitoes. Several dairy field days and farm meetings were attended on insect control. Publication 651-1 "Dairy Pesticides 1968" and 651 "Control of Livestock Insects 1968-69" were revised and distributed. A number of timely articles were prepared for the public media and district offices.

Magpie Control

Live traps and poison sets provided effective control where magpies bothered livestock. New municipal staff were trained in control procedures to assist with individual problems in all districts. Several municipalities conducted winter control programs which greatly reduced magpie numbers. Thirty-two Agricultural Service Boards reported that 452 live traps and poison sets were used and an estimated 7,740 magpies destroyed.

Coyote Control

The approved poisons, strychnine, cyanide guns and compound 1080, were supplied to land owners in 87 approved municipalities which cover the agricultural region, as shown in the following tables:

	Coyote Getters	Cyanide Cartridges	Scent (2 oz. Jars)	Strychnine (Pellets)	Estimated Coyotes Killed
1964	340	1,130	575	38,800	21,900
1965	94	700	610	36,650	19,840
1966	210	570	310	28,550	13,310
1967	110	840	405	33,500	14,880
1968	186	735	462	34,000	14,650

The use of all poisons remained at about the same level. The use of power toboggans for hunting coyotes and a fair price for pelts contributed to the reduced need for poisons. In the fringe areas of settlement, coyote and other predator control was continued in co-operation with the Department of Lands and Forests. Four pest control officers were employed during the winter in improvement districts without Agricultural Service Boards.

Compound 1080 baits were used in sparsely settled areas to assist farmers where other control measures were not sufficient. Under the co-operative program, the following districts used 1080 baits during the winter season:

District	No. Baits Set	District	No. Baits Set
Athabasca, County No. 12	6	Vermilion River, County No. 24	1
Cardston, M.D. No. 6	20	Vulcan, County No. 2	3
Foothills, M.D. No. 31	9	Warner, County No. 5...............	5
Forty Mile, County No. 8	8	Wheatland, County No. 16	11
Grande Prairie, County No. 1	10	Willow Creek, M.D. No. 26	5
Kneehill, M.D. No. 48	10	Special Areas No's. 2 and 3	26
Lac Ste. Anne, County No. 28	26	I.D. No's 11 and 22	12
Leduc, County No. 25	2	I.D. No. 46	2
Lethbridge, County No. 26	3	I.D. No's 58, 65, 68 and 69	14
Mountain View, County No. 17	2	I.D. No's 77, 78 and 95	5
Newell, County No. 4	9	I.D. No. 102	10
Paintearth, County No. 18	8	I.D. No's 107 and 122	4
Pincher Creek, M.D. No. 9	3	I.D. No. 109	6
Provost, M.D. No. 52	6	I.D. No. 126	1
Taber, M.D. No. 14	12	I.D. No. 131	1
		Total 1080 Baits 1968	247

A large number of districts shared baits and co-ordinated control on a regional basis. The following table shows the 1080 programs for the last five years:

	1964	1965	1966	1967	1968
Number of 1080 Sets	448	402	242	256	247
Number District Using	52	47	28	40	38
Number Districts Approved	80	80	80	80	80

Three fieldmen working out of Edmonton and Lethbridge serviced 38 districts with 247 prepared meat baits. The 1080 baits were distributed and disposed of by municipal and provincial officers. All municipal officers were checked out for training requirements. Twenty-one new municipal fieldmen and assistants were trained in poison control techniques and issued with Form B training certificates.

RODENT CONTROL

Pocket Gophers

Field tests were continued, to develop effective grain baits for machine application and to test Gophacide as a safer alternative to strychnine. Dry spring soil conditions limited testing in central Alberta and reduced effectiveness. Ten field trials showed that Gophacide treated oat groats gave about 74 per cent control compared to 78 per cent control with strychnine. Twenty municipalities had mechanical bait applicators available for farmer use in large area infestations. The Counties of Athabasca and Smoky Lake continue programs to keep gophers out.

Other Field Rodents

Bush rabbit numbers increased in most areas. Printed information was supplied on control measures for rabbits and mice damaging ornamentals and shelterbelts. Field trials were continued to develop better control for Columbian ground squirrels in the southern foothills. Gophacide or strychnine treated oat groats gave good control as burrow placements or in centralized bait stations. Action was continued to reduce skunk numbers along the east border as a precaution against rabies spread from Saskatchewan. Information was supplied on the control of the above rodents, prairie gophers, snakes, bats, etc. as requested.

Norway Rat Control

The extensive control program was continued across the province with particular emphasis on the east border. Alberta was basically kept free of rats for the seventeenth consecutive year.

A total of 51 premises were infested by rats during the year as compared to 125 in 1967. All infestations were exterminated by the end of the year. The 1968 invasion was the lightest on record, likely due to better control on both sides of the Saskatchewan border.

The following table shows the rat situation on December 31, 1968, with 1966-67 data for comparison purposes:

	Year	Vermilion River County No. 24	Wainwright M.D. No. 61	Provost M.D. No. 52	Special Areas No. 2 and 3	Acadia M.D. No. 34	I.D.'s 11 and 22	I.D.'s 85 and 101	Totals
Premises Checked	1966	683	256	310	464	173	568	296	2,750
....	1967	632	297	589	620	187	604	211	3,140
....	1968	537	288	680	586	185	646	323	3,245
No. Infestations Exterminated	1966	35	6	29	115	12	8	6	211
....	1967	36	16	19	46	4	4	0	125
....	1968	15	7	9	14	3	3	0	51
No. Infestations Remaining Dec. 31	1966	0	0	0	3	0	1	0	4
....	1967	0	0	0	0	0	0	0	0
....	1968	0	0	0	0	0	0	0	0

An interprovincial rat control meeting was held at Provost in February to co-ordinate control programs with Saskatchewan provincial and municipal authorities. Generally good co-operation was experienced from residents, pest control officers, municipalities and other agencies. In the main, rats were successfully held along the 380 mile front from Montana to Cold Lake. Farther within the province, some rats invaded through transport facilities and shipping. A total of 78 suspected cases were investigated in 31 districts with no live rats found. Some 250 pest control officers were appointed by rural and urban municipalities to handle local reports.

The department continued the 50 per cent grant toward salaries and expenses of officers in six east border districts. Two provincial officers worked closely with municipal authorities, handled problem cases and control in northern improvement districts. Anticoagulant poison baits were supplied for use in the east control area and for suspected cases elsewhere. The following quantities of bait were used: Warfarin Ready Mixed —17,360 pounds and Water Bait — 700 packages. Based on the amounts of poison used and average rat populations, an estimated 20,000 rats were killed.

Displays and demonstrations were used at summer fairs, meetings and through the public media. Newly appointed officers were trained and supplied with information kits. Several articles were prepared for the press and government publications. One prepared paper "Rat Free Alberta" received considerable coverage in Canadian and U.S. magazines.

CROP INSECTS

Grasshoppers

The grasshopper infestation increased slightly in southern Alberta over that of 1967. Of the 5.7 million acres in the infested area, 3.6 million were rated as "light", 1.8 million were rated as "moderate" and 0.3 million acres were rated as "severely" infested. The dominant species was the migratory grasshopper with the two-striped species more numerous in some areas. The clear-winged species was more noticeable than in 1967.

The accompanying map shows the approximate areas and the degrees of infestation. The egg hatch extended well into July and August because of the cool wet weather. There was little movement into crops until late summer and fall. Damage by head clipping and on fall-seeded crops made control of flying hoppers necessary late in the season. Higher rates and repeated spraying with dimethoate insecticide were necessary to protect crops adequately.

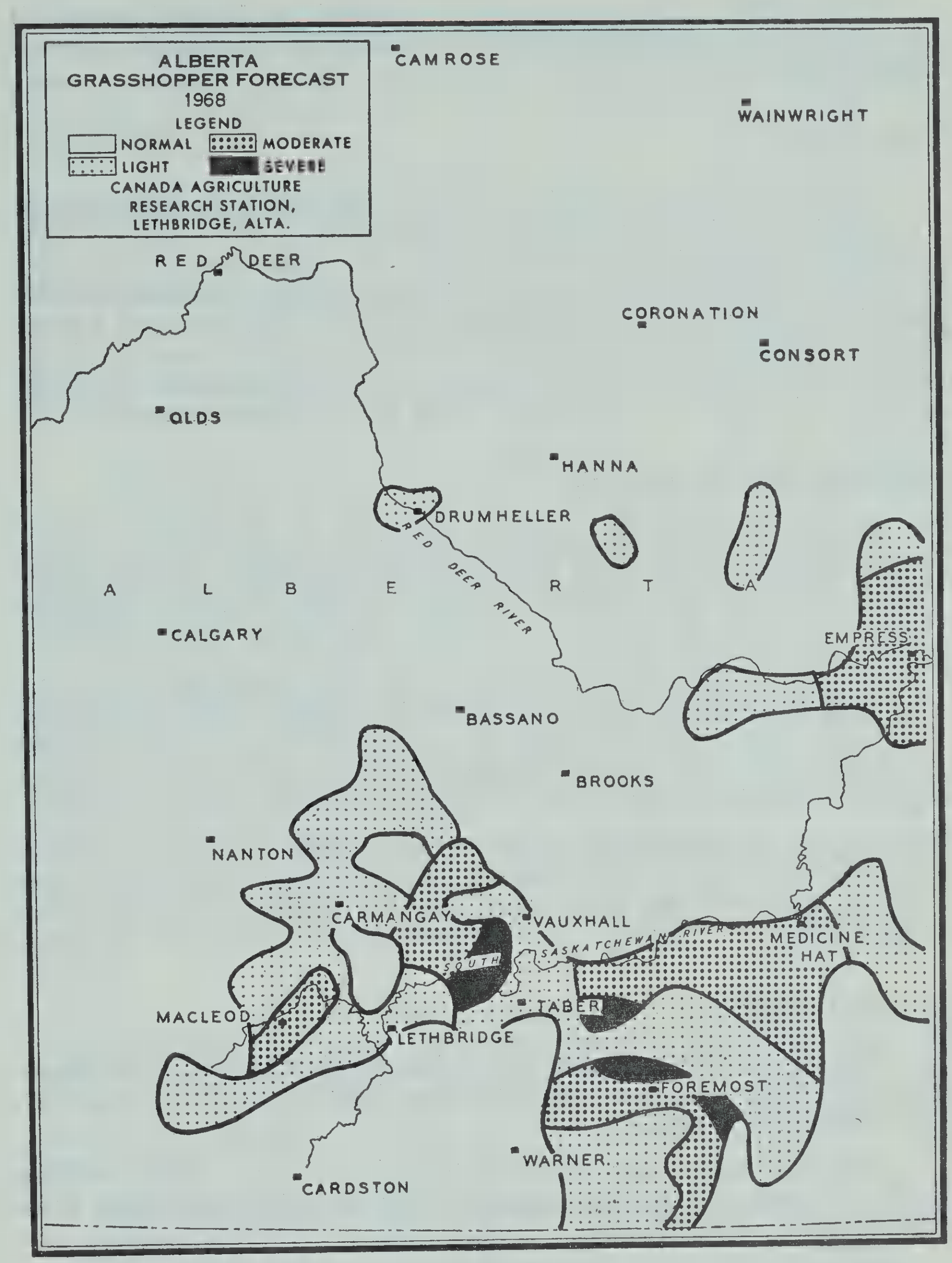
Under the grasshopper policy the department distributed dimethoate insecticide at cost, less handling and shipping charges, through municipal and district offices. Small stocks of dieldrin left in some municipalities were used on non feed crops and limited on cereals prior to the shot-blade stage of growth. To prevent residue problems in meat and milk, dieldrin was further restricted to farms where livestock were not kept. Dimethoate was recommended for use on forage, pasture and livestock feed. Checks by provincial and municipal workers showed that farmers generally used these chemicals properly. Each purchaser of insecticide was required to sign a declaration that emphasized correct use and placed the responsibility for misuse on the applicator.

It was necessary to reprocess approximately 5,900 gallons of five year old stocks of dimethoate which had developed a gummy precipitate. It cost the department approximately $2,800.00 for new gallon containers. Cyanamid of Canada, which originally supplied the dimethoate, paid all other costs of reprocessing.

The grasshopper policy, forecast and map were printed and sent to municipal and district offices and other interested agencies. Information on control was distributed through publication 622-4-1 "Grasshopper Control in Alberta". Publication 632 "Control of Field Crop Insects 1968" was revised for up dated information on grasshoppers and other major crop pests.

The following table compares 1968 data on insecticides and size of infestation with that of 1965-67:

	1965	1966	1967	1968
Acres Land Infested	10,800,000	4,300,000	5,300,000	5,700,000
Acres Crop Menaced	1,300,000	800,000	900,000	800,000
Acres Crop Destroyed	500	250	400	500
Lb. Technical Dieldrin Used	1,060	390	700	—
Lb. Technical Malathion Used	250	400	—	—
Lb. Technical Dimethoate Used	540	690	2,064	3,404
Acres Sprayed — Dieldrin	17,000	6,240	11,200	—
Acres Sprayed — Malathion	350	530	—	—
Acres Sprayed — Dimethoate	3,000	3,680	11,000	18,000



Cutworms

The pale western cutworm caused no economic damage for the third year. Only a few light infestations were reported from the southern prairies.

The red-backed cutworm occurred in various parts of the parkland north of Calgary. The anticipated heavy outbreak did not occur due to the cold, delayed spring. In the laboratory (Crop Clinic) four cases of cutworm damage from submitted plants were diagnosed and recommendations made for control. Endrin was used as an effective control measure. Arrangements were made through commercial firms for local supplies of endrin at reasonable cost.

The 1968 cutworm forecast, prepared by federal research stations, was mimeographed and supplied to municipal and district offices.

Wireworms

Wireworms were found throughout the province but damage in cereals remained at a low level except in a few cases. Some damage continued to occur in potato and other root crops. The laboratory diagnosed 10 cases of wireworms or damage from submitted specimens. Wheat was the host plant in three cases, and vegetable crops accounted for the remaining seven. Municipal seed cleaning plants treated 1,193,455 bushels of seed with insecticide or about 9 per cent of total seed cleaned.

Other Cereal Crop Insects

Wheat stem sawfly damage was generally light to moderate. It was interesting to note that second generation farmers were having difficulty recognizing this pest. Resistant wheat varieties, Cypress or Rescue, were recommended for sawfly infested areas.

Aphids infested some cereal crops. Two cases of infestation in wheat fields were identified in the laboratory. Large numbers of insects in wheat during harvest were identified as the larvae of a syrphid fly. This indicated the wheat had supported a large aphid population which was held in check by these predators.

Dimethoate or malathion sprays were recommended for control of grain-infesting aphids. Sixteen cases of plant injury by thrips were handled by the laboratory. Barley was the host plant in eight cases.

Forage Insects

The sweet clover weevil caused some damage in local areas throughout the province, however the laboratory recorded only one case of damage.

The pea aphid was found in large numbers in some alfalfa fields in southern Alberta. Considerable spraying was done with malathion or dimethoate.

A heavy infestation of alfalfa weevil was reported in some alfalfa fields in the Lethbridge area. Only one case of injury caused by the alfalfa weevil was handled by the laboratory.

Vegetable and Special Crop Insects

Only one infestation of the Bertha army worm was noted in the province. This was a significant reduction from the previous three years. Research was continued on new control insecticides at the Saskatoon Research Sstation. Flea beetle damage rape and mustard seedlings in some areas. Malathion spraying of seedling stands appeared to give adequate control. Only three cases of flea beetle damage came into the laboratory. Diamond back moth larvae were found in some rape fields, however damage was light and no control necessary.

Root maggots were a pest on vegetable crops in various parts of the province but only two cases of root maggot injury were submitted to the laboratory. Colorado potato beetle remained a pest and most potato fields were treated with insecticide.

Shelterbelt Insects

There was an increase in forest tent caterpillar defoliation in west-central Alberta although some persistent populations in other areas of the province declined. The laboratory recorded four cases of infestations but none of any appreciable size. The pattern of defoliation throughout the province was one of patchiness.

Pear slugs were found on cotoneaster, plum and mountain ash. Five cases of pear slug and four cases of lilac leaf miner were dealt with by the laboratory. The lilac leaf miner was troublesome on ornamental lilacs in urban areas. Common insecticides and dimethoate used against these two pests appeared to give adequate control.

Small spruce used in shelterbelts or as ornamental plantings sustained moderate to severe defoliation by the yellow-headed spruce sawfly. Medium to high populations were common in agricultural areas of the Peace River district. The laboratory dealt with six inquiries on identification and control of this insect. Aphids were common on shade trees and on various ornamentals. Forty cases of aphid infestation were dealt with by the laboratory. Although the poplar bud gall mite continued to be a problem on hybrid in southern Alberta, only one case came to the attention of the laboratory. Pruning of infested tips gave some control.

Populations of the fall cankerworm increased in southern Alberta; however, only one case reached the laboratory. Although the preferred host was the Manitoba maple, larvae were found on elm, ash, hybrid poplars and willow. Carpenter ants and wood borers continued to be troublesome in urban and resort areas.

Spider mites were reported on shelterbelts and ornamentals throughout Alberta. Twenty-eight cases of spider mite identification and control were handled through laboratory services.

The department's 50 per cent grant for purchasing insecticide sprayers was used by three municipalities in 1968 to provide a total of 30 of these special sprayers. There were 649 shelterbelts sprayed with municipal equipment in 29 districts reporting.

Other Insect Pests

Numerous problems occurred from stored grain pests such as grain mites, rusty and saw-toothed grain beetles. In total, 28 cases of damage by this group of insects were handled through the laboratory. Information was supplied to farmers on stored grain problems. Deodorized malathion was recommended for treating infested grain. Twenty-eight cases of household insects including a small outbreak of soldier beetles, plus nine cases of insects of public health importance, mainly flies, were dealt with through laboratory services. Sod webworm and earthworms infested lawns in urban areas of south-central Alberta. Chlordane was recommended as a control measure.

The strawberry root weevil continued to invade homes but did not cause any economic damage. Twelve cases of this insect were dealt with in the laboratory. Numerous minor insect pests of crops and gardens were identified and control information supplied as requested.

CROP DISEASES

Bacterial Ringrot of Potatoes

The control program was continued in established pest areas. The annual field survey of disease was conducted in two stages. Early varieties were inspected during the second week of August. The final survey was carried out by six provincial inspectors starting August 26 in co-operation with municipal and federal inspectors.

A joint provincial-municipal program was operated for the third year in five districts: Counties of Newell, Lethbridge and Forty Mile, M.D. of Taber and I.D.'s 11 and 22. Work on field inspections was shared on about a 50-50 basis, with the municipalities handling most of the control measures on infected farms. Grants to the co-operating municipalities were continued on the basis of number of growers and acreage under permit. Diagnostic work on bacterial ringrot was handled by the staff of the Crop Clinic at Edmonton (44 positive samples) and at Lethbridge (58 positive samples).

The following table shows the crop situation and survey results by Pest Areas with 1966-67 data for comparison purposes:

Pest Area	Year	No. Farms Inspected	No. Farms Infected	Acreage Inspected	Acreage Infected	% Infected Farms	% Infected Acreage
M.D. Taber	1966	57	27	7,095	1,911	47.4	26.9
	1967	44	14	5,995	1,625	31.8	27.1
	1968	53	13	7,414	1,248	24.5	16.8
County of Lethbridge	1966	39	12	902	192	30.8	21.3
	1967	28	3	800	38	10.7	4.8
	1968	28	2	866	72	7.1	8.3
County of Forty Mile	1966	12	4	862	368	33.3	42.7
	1967	9	0	867	0	0	0
	1968	11	0	1,030	0	0	0
I.D's 11 & 22	1966	8	2	209	15	25.0	7.2
	1967	4	0	106	0	0	0
	1968	4	0	160	0	0	0
Perimeter Area	1966	24	4	190	10	16.7	5.3
	1967	22	8	163	23	36.4	14.1
	1968	24	2	189	2	8.3	1.0

Pest Area	Year	No. Farms Inspected	No. Farms Infected	Acreage Inspected	Acreage Infected	% Infected Farms	% Infected Acreage
County of Newell	1966	48	11	3,782	390	22.9	10.3
	1967	42	7	3,377	308	16.7	9.1
	1968	48	10	3,918	518	20.8	13.2
Calgary	1966	20	7	249	80	35.0	32.1
	1967	16	1	170	8	6.3	4.7
	1968	15	1	207	4	6.7	1.9
Edmonton	1966	99	24	5,718	1,349	24.2	23.6
	1967	77	6	4,332	631	7.8	14.6
	1968	72	5	4,838	186	6.9	3.8
Total	1966	307	91	19,007	4,315	29.6	22.7
	1967	242	39	15,810	2,633	16.1	16.7
	1968	255	33	18,622	2,030	12.9	10.9

The bacterial ringrot situation was the best in over 10 years. There has been a steady improvement over the last 4 years. The worst source of infection was imported seed potatoes. A total of 18,622 acres on 255 farms was inspected. The percentage of infected farms decreased from 16.1 in 1967 to 12.9: Infected acreage decreased from 16.7 in 1967 to 10.9 per cent. The level of infection in most fields was found in trace amounts only.

The main reasons for the decline were: 1) greater use of certified seed, 2) better use of chemical and steam disinfection, 3) the co-operation of municipalities in the control program, and 4) better co-operation and co-ordination of effort by three government levels with growers and selling agencies.

Control measures were discussed at meetings with growers and municipal and district officers. All growers with ringrot infection were contacted by registered mail and by several personal interviews, to advise and assist with orderly crop disposal and control measures. Various publications and articles were distributed to growers.

The department's high pressure sprayer was used to disinfect 14 cellars plus machinery and equipment in the Edmonton area. The co-operation of municipalities, grower-packer marketing organizations and processing plants resulted in early marketing of infected stocks. There was no cut-off date for sale, provided stocks from infected farms were sprout inhibited.

Other Important Diseases

Information obtained from field surveys by branch members and reports from offices of district agriculturists revealed that no serious disease outbreaks occurred in 1968.

Articles on the benefits and hazards of seed treatment for disease control were issued. Municipal seed cleaning plants treated with fungicide 6,428,000 bushels or 47 per cent of total cleaned seed.

Cereals

Loose smut on barley was found occasionally in various districts. Common root rot on wheat and barley occurred frequently, especially on non rotated fields. Stem rust on wheat was rare but leaf rust was more common. Severe head discolorations caused by weather conditions or pathogenic bacteria and fungi, occurred mainly in northern areas, reducing the quality of grain. Scald and net blotch caused light damage on barley, especially in northern areas.

Other Crops

On potatoes, blackleg and rhizoctonia were prevalent, mainly because of cool, moist conditions in late summer. Moderate infestation of early and late blight occurred in the Edmonton area. Root rot on vegetables was low but serious losses occurred on some farms in carrots. Moderate occurrence of downy mildew and white rust on rape was reported more common in the Peace River area. Rust on flax was common but not serious. Severe snow mold damage on lawns and other turf areas was common in northern areas in the spring.

Snow Molds in Winter Grains and Lawns

A survey of winter damage in winter grains and lawns in the Peace River region revealed that the main cause for it was pathogenic fungi, **Sclerotinia borealis** and **Typhula** sp. Severe damage, up to 30 per cent, caused by **Typhula** sp. occurred in the spring. The occurrence of **Sclerotinia borealis** in the area was common but severity declined when compared with the damage in the spring of 1967. This information was prepared for scientific publication.

LABORATORY SERVICES (CROP CLINIC)

The Primary responsibility of the Crop Clinic was to provide a diagnostic and identification service to the plant industry. To this end, specially trained personnel, special equipment and techniques, not available in extension offices, were employed. Two summer assistants assisted in plant pathology and botany. A post-graduate student in plant pathology was hired in the fall on a part-time basis.

The laboratory supervisor and Dr. A. W. Henry, part-time plant pathologist, spent a portion of their time on field investigations. Dr. Henry visited research personnel and commercial nurseries in British Columbia to gain information on diagnostic techniques, production of virus-free horticultural planting material, and possible sources of diseased nursery stock. The supervisor inspected forest tree nursery operations, while attending plant pathology meetings in Coeur d'Alene, Idaho.

The following is a summary of the numbers of specimens received for diagnosis, identification and recommendations.

Occurance In	Diseases	Insects	Plant Identification	Miscellaneous	Total
Cereals and Forage	260	32	6	0	298
Special Crops	28	2	11	0	30
Lawns & Ornamentals	542	179	11	0	732
Shelterbelts	76	0	0	0	76
Vegetables	163	27	0	0	190
Fruits & Mushrooms	64	25	19	0	108
Stored Products	0	22	0	0	22
Household	0	28	0	0	28
Miscellaneous	0	110	101	22	233
Weeds	0	0	227	0	227
	1133	425	364	22	1944

In addition to the above, 265 plant specimens were collected by staff for weed kits to be used by veterinarians and extension personnel.

Plant Pathology

Problems relating to a total of 1,133 submissions, involving 120 different species of plants, were diagnosed and control recommendations issued when deemed necessary.

Horticultural Diseases

Diseases of horticultural plants constituted 80 per cent of all disease submissions. Trunk and limb canker diseases, as well as crown and root rots of trees and shrubs due to fungal pathogens, were considered to be of serious consequence on fruits, ornamentals and shade trees. A canker disease of mountain ash, previously unreported in Alberta, was found in local nurseries and a collar rot of Rutherford apples was shown to be caused by a species of **Phytopthora,** new to this area and possibly to Canada.

Bacterial blight of field peas grown for seed in southern Alberta was diagnosed from several samples, and confirmed at the Plant Research Institute, Ottawa. A condition affecting the roots of imported apple seedlings in the Edmonton area was suspected to be crown gall.

Complaints and specimens of unsatisfactory potato seed were more prevalent than in recent years due to dry rot. A survey of commercial potato fields in southern Alberta revealed a high incidence of Rhizoctonia potato seedling infections, which reduced stands and yield. Sclerotinia rot of carrots while growing in the soil, was noted for the first time. This rot caused severe losses in commercial carrots in the Brooks and Edmonton areas within a few weeks of harvest.

Field Crops Diseases

Seasonal conditions were unusually favorable for the development of certain infectious diseases. The cool, wet weather during the growing season encouraged fungi and bacteria to develop on the leaves and seed-producing parts.

Diseases of Wheat

Some 15 to 20 different infectious diseases of this crop were present in samples received for identification. Stem rust and especially leaf rust occurred in late summer but were of little consequence. Powdery mildew was unusually prevalent. Covered smut, a disease readily controlled by seed treatment, was present in the Peace River area and in winter wheat crops in southern Alberta. Root rot, particularly common root rot, was prevalent and destructive in central and northern Alberta. Take-all, browning root rot, and anthracnose were identified. Ergot occurred at only a few points. Other head-blights, especially basal glume rot and black chaff were unusually common and destructive. Frost was a major factor in blighting wheat heads. Blighted heads were frequently overgrown with harmless black molds which discolored them and unduly alarmed farmers.

Diseases of Barley

True loose smut was present in a number of fields. Leaf diseases were unusually prevalent especially in central Alberta and responsible for much damage. Of these, net blotch and scald were the most prominent and destructive. Head-blights were also common and important as in wheat. Frost damage to the heads was also common in late maturing crops. Root rots were troublesome over a wide area.

Diseases of Oats

Covered smut has been the principal one found in Alberta to date. Halo blight, stripe blight and bacterial leaf diseases were also reported. Other forms of damage affecting oats were frost, herbicide or other chemical injuries, blast and bird damage.

Flax Diseases

Damping-off, stem break and browning were the only flax diseases submitted. An outbreak of the latter disease in the Standard area caused considerable concern. Previous reports of this disease have come mainly from the Peace River area.

Forage Crop Diseases

Very few submissions of forage crop diseases were received. Among legumes only a few diseases of alfalfa, sweet clover and sainfoin were submitted. In alfalfa, common leaf spot and Stemphylium leaf spot were observed. In addition, a virus disease of the mosaic type was submitted.

Special Crops

In addition to widespread frost and herbicide damage the following fungal diseases were identified on rape: white rust, black spot and ring spot. The latter was identified for the first time at the laboratory in local material.

Plant Identification

Plants received were generally unusual species unknown to field staff. The largest single group of plants submitted (56 in number) were those suspected of being poisonous to livestock or humans. The bulk of the remaining specimens came from grain fields, lawns, seed and feed grain samples, gardens and pastures. Among the weed species examined, green foxtail (**Setaria** sp.), ground ivy (**Glecoma** sp.), black medick (**Medicago** sp.), and garden bluebell (**Campanula** sp.), apparently caused difficulties in control. A number of larger fungi such as mushrooms were received with enquiries as to their edibility. An unusually large proportion of the standing grain samples received, supported abundant growth of non pathogenic fungi. Concern was expressed on the poisonous properties of these saprophytic molds.

Entomology and Zoology

In total, the entomology section of the laboratory handled 425 cases of insect damage, identification or recommendations for control, an additional 25 cases over 1967. A variety of publications were relied on to assist in control recommendations. A more comprehensive breakdown of this section's contribution is contained under "Crop Insects". Additional information is contained in the table of specimens listed near the beginning of this report.

Extension and Communication

Increasing demands on the laboratory services by urban dwellers continued. Constant communication was maintained with department extension personnel, agricultural fieldmen, home owners, veterinarians, greenhouse operators, nurserymen, parks personnel, farmers and ranchers. The supervisor, one part-time pathologist and the entomologist attended 34 meetings, 22 seminars, undertook 73 field trips, and were involved in 19 special investigations. Three scientific papers were published and formal presentations were made at a number of professional meetings. The supervisor presented lectures at the University of Alberta and at the Olds A. V. College. Several consultations were held with professional personnel at the Alberta Universities, federal research stations and agricultural colleges. Considerable time was spent by all the professional laboratory staff in perusal of scientific literature to maintain contact with changes in field practice and problems of the plant industry, with recent research developments, and with professional workers in similar fields of endeavor.

Special Investigations

Toxic Gases Fumigation Effects

Samples of wild and cultivated plants were examined following the escape of large quantities of chlorine gas fumes during late September from an industrial plant in the Fort Saskatchewan area. Foliage, particularly of broad leaved plants and spruce, was left blighted and shed prematurely. Determination of the extent of permanent injury to such plants awaits further detailed investigation. Sulfur dioxide fumes in the Balzac area were considered as possible causes of a bleaching effect on some cereal crops and pasture plants.

Vegetable Storage Rots

Investigations continued into the cause and effect of spoilage in long stored vegetables to determine the nature of conditions favoring development of certain rots in controlled temperature storages. It appeared that pre-washing and pre-packaging can lead to serious losses unless optimum temperatures and aeration prevail.

Stem-break of Flax

A serious form of this disease occurred in southern Alberta and was traced to the seed used. A study of the value of seed treatment with some of the newer fungicides was continued.

Effect of Systemic Fungicides on Covered Smut of Oats

A seed sample of oats, naturally infested with covered smut, was treated in preliminary tests with several systemic fungicides. Further testing will be required.

Control of Potato Scab

Experiments in co-operation with the University of Alberta to determine the value of soil applications of elemental sulphur for the control of common scab of potatoes have been underway for several years and will be continued.

PEST CONTROL AND PESTICIDE COMMITTEES

The branch head served as secretary of the Pest Control Advisory Committee which held its 12th annual meeting in December. The P.C.A.C. served as a liaison group for representatives of the federal and provincial governments, university and industry. It resolved various problems including conflicting interests in pest control programs and reported to the Alberta Agricultural Co-ordinating Committee.

The branch head also served as secretary of the Alberta Interdepartmental Committee on Pesticides which held its seventh meeting in May and its eighth meeting in December. The A.I.C.P. resolved various problems of concern to different agencies such as pesticide residues, training and licensing of commercial pesticide applicators, safety programs. A number of sub committees under P.C.A.C. and A.I.C.P. worked on publications, nuisance birds, mosquito control recommendations and screening applicants for pesticide applicators licensing.

Branch staff served on the P.C.A.C. and A.I.C.P. and the various sub committees. The branch head chaired a special A.I.C.P. sub committee established to draft an Agricultural Chemicals Act. Guidelines were drafted for interdepartmental liaison in regulating agricultural chemicals, the proposed Act was cleared with various interested agencies and a draft Act was prepared for the Legislature.

The branch head, as provincial representative, attended the annual meeting of the National Committee on Pesticide Use in Agriculture (NCPUA) at Ottawa in March. The annual meetings of the western sections of NCPUA were attended in October at Winnipeg by the Supervisor, Entomology-Pesticides and the branch head. The Western Committee on Crop Pesticides and the Western Committee on Livestock Pesticides dealt with regional problems and developed recommendations for the control of crop and livestock pests. The guides developed by the WCCP and WCLP were used as bases for updating provincial publications and were distributed as reference material for district and municipal offices.

The supervisor, Entomology-Pesticides, served as chairman of a committee appointed to investigate the effects on animals, vegetation and soil of chlorine gas escape from the Dow Chemical plant in the Fort Saskatchewan area. The branch head served on the Alberta Advisory Committee on Population Control, including three working sub committees.

PESTICIDE RESIDUES

More than 1,700 samples were analyzed for pesticide residues by the Dairy and Food Laboratory. From the analyses there were 34 cases of commercial food products found to contain organochlorine insecticides over the tolerance allowed by the Food and Drug Directorate. Through grower co-operation and existing legislation these products were not permitted to enter commercial markets. The branch co-operated with the Dairy and Food Laboratory, the Food Residue Committee, the Veterinary Services Division, the Animal Industry Division and other agencies concerned in conducting special investigations on problem cases to determine the source of residues and to advise the producer or processor on corrective action.

Other agencies or specialists were consulted on the more difficult problems for techniques or follow-up investigations. Major problems in residues involved: Milking cows fed contaminated feed, particularly pesticide treated seed, root crops and forage. Livestock and poultry fed mixtures containing seed grain treated with wireworm insecticides or mercury fungicides. Root crops and forage grown on soil previously treated with long lasting insecticides.

Milk and other dairy products and meat products were randomly sampled to ensure that the public received safe milk and food. Most residues in vegetables came from land treated with aldrin or dieldrin for insect control in previous years. Considerable information and guide lines were developed which will be useful for resolving future problems. The branch co-operated with the Food and Drug Directorate in handling residue problems in food and with the Canada Department of Agriculture on residue problems in commercial feeds. Most actions were preventive to ensure that only safe food and feed entered market channels.

Two cases of contaminated eggs from feeding poultry with treated seed were fully investigated. One case was a carry over from 1967. Heptachlor residues were well above permitted levels in both cases and both flocks were destroyed by mutual agreement with the owners. Twenty contaminated chickens were purchased for testing in co-operation with the Veterinary Services

Laboratory and the Dairy and Food Laboratory. It was found that it took about 33 weeks before the heptachlor residues declined to acceptable levels for marketing of eggs or meat.

Warnings were issued through publication 607/400 "Pesticide Residues Can Be Serious", circulars, posters, farm meetings, radio, press and TV on how residues develop and how they may be prevented. In June the Supervisor, Entomology-Pesticides, attended a Food and Drug Symposium in Ottawa on Current Views on Pesticides. Through close co-operation between federal and provincial agencies, as well as random monitoring of all food products, problems were kept to a minimum and the safety of the consuming public was maintained.

OTHER ACTIVITIES

There were two additions to the professional staff of the Branch. Mr. R. D. Dixon joined the Crop Clinic as Entomologist-Zoologist on October 15 and Dr. H. Vaartnou assumed duties as Supervisor, Plant Pathology, on November 1.

The branch head and the Supervisor, Entomology-Pesticides, spoke at 51 public meetings, short courses and field days. They attended 86 conferences and committee meetings. Fifteen municipal council and agricultural service board meetings were attended on various problems. Ten articles were prepared for "Farm Notes" and the farm press. Seventeen radio and TV interviews were made. There were 93 special field investigations on various pest problems. Five publications were prepared or revised and distributed.

Branch staff co-operated with other agencies in presenting the first pesticides training course which was attended by about 70 pesticide applicators at Olds A.V.C. Liaison was maintained with university, provincial, federal and industry agencies in connection with pest control and pesticide use. The branch head served as a member of the Central Rabies Control Committee. Scientific papers* were published and papers** were presented at major meetings as follows:

*(1) Peterson, L. K., McKenzie, Hugh, and Holmes, N.D. 1968. Establishment of a nursery for evaluation of resistance of strains of wheat to the wheat stem sawfly. Jour. Econ. Ent. 61(3), 836-838.

(2) Peterson, L. K., Bergen, H. J., and McKenzie, Hugh. 1968. A mechanical harvester for collecting larvae of the wheat stem sawfly. Can. J. Plant Sci. 48(1), 109-110.

(3) Holmes, N. D., McKenzie, Hugh, Peterson, L. K., and Grant, M. N. 1968. Accuracy of visual estimates of damage by the wheat stem sawfly. Jour. Econ. Ent. 61(3), 679-684.

(4) Stelfox, David. 1968. A note on magpies and rocky mountain bighorn sheep. Can. Field Nat. 82(3), 224.

(5) Henry, A. W., and Stelfox, D, 1968. Comparative behavior of the osspores and oogonia of **Phytophthora citricola** during germination on an artificial medium. Can. J. Bot. 46(11), 1419-1421.

(6) Henry, A. W. and Stelfox, D. 1968. Observations on the germination of theoospores of **Phytophthora citricola.** Can. Plant Dis. Surv. 48(1), 37-38.

**(1) "Pesticides". J. B. Gurba, Annual Meeting, Alberta Co-operative Seed Processors. January, 1968. Edmonton.

(2) "Seed Treating Hazards". L. K. Peterson. Annual Meeting, Alberta Co-operative Seed Processors. January, 1968. Edmonton.

(3) "Alberta's Rat Control Program". J. B. Gurba. Interprovincial Rat Control Meeting. February, 1968. Provost.

(4) "A Critical Look at the Agricultural Chemical Industry". J. B. Gurba. Annual Meeting, Canadian Agricultural Chemical Ass'n. September, 1968. Winnipeg.

(5) "Pesticide Legislation". J. B. Gurba. Agricultural Service Boards Conference. October, 1968. Olds.

(6) "Pesticide Residues". L. K. Peterson. Agricultural Service Boards Conference. October, 1968. Olds.

(7) "Crop Clinic Services". D. Stelfox. Agricultural Service Boards Conference. October, 1968. Olds.

(8) "Typhula Snow Mold in Peace River Region". H. Vaartnou, Annual Meeting, Canadian Phytopathological Society (Alberta Region). November, 1968. Lethbridge.

(9) "Effect of Chlorine Fumigation on Vegetation in the Fort Saskatchewan Area". D. Stelfox. Annual Meeting, C.P.S. (Alberta Region). November, 1968. Lethbridge.

(10) "Phytophthora species in Alberta". A. W. Henry. Annual Meeting, C.P.S. (Alberta Region). November, 1968. Lethbridge.

(11) "A Field Bioassay of Insecticides for Mosquite Control". R. D. Dixon, Annual Meeting, Entomological Society of Alberta. November, 1968. Kananaskis.

(12) "Organized Warble Control Areas". J. B. Gurba. Annual Meeting, E.S.A. November, 1968. Kananaskis.

(13) "The Blackfly Problem in Alberta". L. K. Peterson. Annual Meeting E.S.A. November, 1968. Kananaskis.

(14) "Insect and Disease Pests of Potatoes". J. B. Gurba. Annual Meeting Alberta Potato Growers Association. November, 1968. Lethbridge.

HORTICULTURE

Horticulture Services

Alberta farmers planted 1,874,545 trees from the provincial nurseries at Oliver and Brooks. This is a decrease of 48,185 from 1967. In addition, 75,000 rooted poplars were given to the P.F.R.A. Tree Nursery, Indian Head, Saskatchewan, in exchange for Manchurian elm. Shipping commenced on April 18 and was completed by May 18. Eighty-five per cent of the trees were shipped by county or M.D. truck; the remainder went rail express. The number of applicants receiving trees was 5,286; an increase of 7. The trees were planted for the following reasons:

Farmstead Shelterbelts	1,297,570
Field Windbreaks	313,697
Roadside Shelterbelts	201,036
Replacements	57,952
Miscellaneous use	4,290

Under the ARDA Project #28021, $42,900.00 was given to counties and municipalities for supervision of plantings.

Tree Nursery — Oliver

An inventory of trees at the end of 1968 included 6,286,005 trees for the Department of Lands and Forests; 3,810,228 conifer seedlings and 6,810,228 field grown transplants and seedlings for the Department of Agriculture's shelterbelt program; 1,691,950 trees in storage and heeled in for shipment in the spring of 1969; 11,051 larger trees for Provincial Parks' use; and 800 fruit bundles for shipment in 1969 (4,600 trees). The total inventory as of November 30, 1968, was 18,694,916 — not including hardwood cuttings now in storage. In addition to the field grown trees, 56,000 tubeling seedlings are in the lath house for transplanting in 1969.

Tree seed crops were fair to good with the exception of Manitoba maple. The following quantities of seed were collected:

Basswood	5	lb.	Hansen Rose	21	lb.
Bur Oak	6	lb.	Honeysuckle	77	lb.
Caragana	5.4	lb.	Lilac	22	lb.
Chinese Hawthorn	1	lb.	Manitoba Maple	40	lb.
Colorado Spruce	24	lb.	Red Oak	12	lb.
Dogwood	11	lb.	Scotch Pine	3	lb.
Green Ash	80	lb.			

Colorado spruce, white spruce, Swisstone pine, and lilac are still to be processed. Additional quantities of green ash and Manitoba maple will be collected.

Seven new shelterbelts consisting of Manchurian elm, larch, spruce, hawthorn, maple, willow and mountain ash were planted at the nursery. All missing trees in existing windbreaks were replaced, with the exception of those removed to facilitate the building of an oil pipe line through the nursery during November. These missing trees will be replaced next spring.

Nine lots of foundation grass and alfalfa seed were cleaned for the Department of Agriculture. One thousand yards of peat moss were hauled from Namao for nursery use at shipping time.

Nine organized groups (290 people) visited the nursery. Students of the Forestry School, Northern Alberta Institute of Technology (N.A.I.T.), visited the nursery four times during the summer as part of their course of study. In addition to the farmers who picked up their trees directly from the nursery, 348 other visitors called.

Two members of the nursery staff worked at the Provincial Horticultural Station, Brooks, assisting the staff in cutting willow and poplar whips. These were later trucked to the Provincial Tree Nursery for processing into cuttings and for winter storage. Hardwood cuttings at the end of November totalled 725,255. Another 300,000 cuttings are being dipped in SEMESAN and great care is being exercised in maintaining sanitary conditions during the cutting making process.

The following new equipment was purchased: a seedling digger, a sand spreader, an air stapling gun and a small sprayer. The nursery mechanic constructed several new pieces of equipment including a seed drill, seed bed trailer, irrigation trailer, transplanter, and many other small pieces of equipment. A small header house was constructed to service three portable greenhouse — two 50-foot and one 100-foot long house. These will be used to grow containers next spring. A new addition to the cold storage plant was completed and a start will soon be made on a new walk-in cooler for storing seedlings.

The Northern Alberta Institute of Technology (N.A.I.T.) constructed a small field hut at the nursery which will be used as a classroom for some of their studies. A road was constructed to it. A half-mile fence has been built along the side of the highway and a one-mile fence was completed between the nursery and an adjoining farm. This fence was built in co-operation with the owner of the adjoining land. The nursery parking lot was expanded to accommodate the increasing number of vehicles that are coming to the nursery. A change in handling of seed beds is contemplated this winter which will mean the conversion of about 6,000 ten-inch snow fence covers to the new system. Institution inmates will be used for this operation.

A total of 366,280 hardwood cuttings were lined out at the nursery in the spring by a crew of eight men. A total of 848,990 transplants were set out during the spring and summer months. These included transplants for both the Departments of Lands and Forests and Agriculture. A total of 887 pounds of deciduous seed were planted. The following is a summary of the shipping and transplanting done for the Department of Lands and Forests:

Locations	Shipped	Transplanted	(3-1) 52% Surviving
Athabasca Forest Division			
Bow River Forest Division	48,725	158,284	72,385
Crowsnest Forest Division	19,700	4,154	4,670
Edson Forest Division	77,025	49,170	24,415
Footner Lake Forest Division	13,500		
Grande Prairie Forest Division	71,920	43,625	26,950
Lac La Biche Forest Division	18,150	40,572	23,125
Peace River Forest Division	18,950	2,806	910
Rocky Forest Division	68,475	83,900	58,430
Slave Lake Forest Division	66,475	166,616	78,070
Whitecourt Forest Division	28,125	25,000	8,840
NWP & P	9,078		
Federal Forestry Branch	6,660		3,635
Total	446,975	574,127	301,430

Seed beds were sown to produce seedlings for the Forest Divisions as listed below:

Locations	Seeded
Athabasca	101,300
Bow River	426,000
Crowsnest	175,900
Edson	368,200
Footner Lake	293,600
Grande Prairie	117,000
Lac La Biche	154,400
Peace River	296,400
Rocky	330,000
Slave Lake	184,600
Whitecourt	119,400
Total	2,556,800

In addition to the conventional seedlings, 926,000 containers were seeded to produce 635,000 plantable seedlings for forest use.

A total of 776,256 conifer seedlings were produced from the spring sowing for use in the shelterbelt program. In addition, 80 seed beds were sown for use by the Federal Forestry Service in the Alberta forests.

Seed beds were sown in the fall to produce 600,000 seedlings of white spruce and lodgepole pine for forestry use and 100,000 honeysuckle, 50,000 villosa lilac, and 10,000 mayday and hawthorn for shelterbelt use.

Cone seed extraction is progressing satisfactorily and the extraction plant is now operating well after a fire in August that put the plant out of production for six weeks. The present daily production on a two shift basis is 255 bushels of spruce and 170 bushels of pine.

Receipts of cones to the end of November were as follows:

13,236 bushels of spruce
7,584 bushels of lodgepole pine.

Receipts of pine will continue throughout the winter.

To date, the cones extracted have yielded 5,500 lb. of spruce seed and 800 lb. of lodgepole pine for a value of $63,000.00 at wholesale prices.

In addition to seed extracted for Forestry and Agriculture, seed is being processed for a number of private pulp and logging companies. The seed extracted for these companies is also being stored at the nursery until needed. A charge for extraction services is made to companies.

A total of 733 lb. of seed treated with Endrin, Latex and Arasan has been shipped to forests for seeding by air, hand or machine.

Several hundred germination tests have been made on newly extracted seed and seed lots in storage by the laboratory technician, in addition to moisture tests, purity tests, and cutting tests made on each lot of seed.

The laboratory technician also co-operated with the Federal Forestry Service on a cone rust and maturity study carried out for the Alberta Forestry Service.

The nursery staff is also co-operating with the Federal Forestry Service in other studies including fertilizers, damp off diseases, seed treatment, etc.

A co-operative poplar and willow trial is also being conducted in co-operation with the P.F.R.A. Tree Nursery, Indian Head, Saskatchewan. This trial is located on the Provincial Poultry Plant property.

The Alberta Forestry Service also has several trials at the nursery, mostly concerning container growing.

Four rain gauges were installed at the nursery in the latter part of May by the Water Resources Division, Department of Agriculture. Records were maintained by the nursery staff.

The nursery staff consisted of five permanent and four hourly employees employed by the Department of Agriculture, plus one laboratory technician employed by the Department of Lands and Forests. Part-time staff consisted of eighteen men and women for the growing season and fifty additional people during the shipping season. Patients from the Alberta Hospital were also employed during the summer months and did a useful job. Inmates from the Belmont Rehabilitation Centre were also used when available during the summer and will be used throughout the winter on pruning, ground work, and any other work that can be found for them at the nursery. Both the Fort Saskatchewan Gaol and Belmont Rehabilitation Centre are also assisting the nursery in the filling of trays with containers this winter. These are the two million that will be used for forestry purposes next spring. The Fort Saskatchewan Gaol also assited the nursery with the stringing of 46,000 shipping tags. It is planned to use more inmate help.

Horticultural Advisory Committee

This committee representing the research station of the Canada Department of Agriculture, the University of Alberta, the Plant Industry Division, and the commercial and amateur horticulture industry, reported on research and other developments in horticulture to the Alberta Agricultural Co-ordinating Committee on December 6.

Potato Production Improvement Committee

This committee, appointed by the Horticultural Advisory Committee, is composed of commercial and seed potato growers from the major producing areas of the province together with provincial and federal Department of Agriculture personnel interested in the production and marketing of potatoes. It is a sub committee of the Horticultural Advisory Committee. The committee met in Calgary on November 8.

Seed Potato Production

The following is an eight year summary of seed potato production in Alberta.

	1961	1962	1963	1964	1965	1966	1967	1968
No. of Growers ..	57	51	50	45	59	61	55	50
No. of Fields Inspected	249	190	182	174	237	223	290	253
Acres Inspected for Cert.	2,196	1,617	1,607	1,576	2,880	3,831	3,300	3,365
No. of Fields Rec. Cert.	158	179	160	152	207	213	262	221
Acres Passed for Cert.	1,442	1,415	1,475	1,271	2,552	3,266	3,016	2,631

Alberta Horticultural Association

The sixteenth annual meeting of the association was held in Calgary on March 23. The executive met twice during the year. The fourteenth Provincial Horticulture Show was held in Lethbridge on August 15 and 16. The association sponsored a third Horticulture Judging School at the Fairview Agricultural and

Vocational College on July 29 and 30. The association again sponsored "Horticulture Week", August 5 to 10, at the Olds Agricultural and Vocational College. A total of 150 men and women registered in one or more of the six courses offered. Four editions of the association's publication, "The Alberta Horticulturist", were issued. Mr. Lorne White of Calgary was re-elected president.

Other Activities

The branch head visited most of the district agriculturists offices during the year. The branch again assisted the County of Leduc and the Department of Highways in planting and beautifying No. 2 highway. He addressed sixteen public meetings and judged at 4-H achievement days. Two trips were made to the Peace River Block, including the Fort Vermilion area, to address public meetings and assist at the third judging school held at the Fairview Agricultural and Vocational College. Nine trips were made to southern Alberta to attend vegetable and potato growers' meetings and to discuss matters of common interest and concern with the staff of the Horticultural Station, Brooks.

The Head of the Horticulture Branch is the department's representative on the Edmonton Regional Planning Commission and attended eight regular monthly meetings, two Executive Committee meetings and two meetings of the Agricultural sub committee. He is also the department's representative on the Provincial Planning Board and attended 11 regular monthly meetings and served as a member of the board on 19 occasions to hear sub division appeals.

The branch head chaired the contract negotiations between the processors of vegetables and the Process Vegetable Growers' Marketing Board. He attended the annual meeting of this growers' association.

Five days were spent in gathering information for the greenhouse industry of the province. He made several trips to Olds regarding Horticulture Week held in August at the college. He acted as a judge at five local horticulture shows. He is a member of the executive of the Alberta Horticultural Association and serves as editor of that organization's quarterly publication, "The Alberta Horticulturist".

Several interviews were given on the department's radio program, "Call of the Land". Two television appearances were made on Edmonton stations. Sixteen press releases were published in "Farm Notes". Meetings were held with officials of the Cities of Edmonton, Calgary and Red Deer, regarding horticulture extension in urban areas.

Six meetings were held with officials of the Alberta Department of Lands and Forests regarding the operation and management of the Oliver Tree Nursery. He attended the annual meetings of the Alberta Potato Growers' Association, Alberta Fresh Vegetable Growers' Association, and the three-day Conference of the Western Canadian Society for Horticulture held in Winnipeg. He represented the branch at seven division meetings.

The branch prepared and staffed a display on tree planting for the Calgary Exhibition and Stampede's salute to agriculture "Flare Square".

SPECIAL CROPS

Acreage of Special Crops in Alberta

	1967	1968
Onions	200	255
Corn (fresh only)	400	675
Carrots (fresh only)	325	400
Rutabaga	400	345
Cucumber	300	270
Cabbage	300	185
Potatoes	19,000	21,000

Onions

An excellent onion crop was harvested and put into storage. The majority of onions harvested were immature, consequently spoiling in storage was high due to Botrytis neck rot. This disease can be controlled by proper heat curing. However, properly constructed facilities are necessary. Indications are this crop will expand in acreage in the future, and will be one of Alberta's prime vegetable crops.

Areas of production are mainly Medicine Hat, Taber and Brooks.

Corn

The 1968 corn crop was one of the poorest on record. Cool, wet weather in July and August delayed maturity and decreased yields appreciably. Quality of the harvested and marketed produce was not as good as in previous years.

Prices were firm due to the light supply. Main production areas are Medicine Hat, Taber and the Peace River Valley.

Carrots

Probably the best crop of carrots in Alberta's history was harvested. Total acreage and total production were up considerably. Yields were poor to excellent; 15-20 tons net per acre were recorded in some fields. Post handling is very critical and should be emphasized more in grower education.

Prices dropped early in September, meeting competition from Ontario; prices started to firm up late in the year.

Areas of production are Peace River, Edmonton, Red Deer, Brooks, Rosemary, Vauxhall and Medicine Hat.

Rutabaga

Rutabaga presented a difficult problem, growth cracks were very severe in many instances, and thus the product did not grade up to Canada No. 1. Storage problems are very apparent with this crop. Common root cellar storage is not sufficient to hold it properly.

Prices have been lower than desirable but on the whole quite firm.

Areas of production are Taber, Picture Butte, Brooks and Edmonton.

Cucumber

A very poor crop was harvested. Cold wet weather reduced production to almost nil in many cases. Serious aphid damage also affected production. Quality of the harvested product was marginal.

Production areas include Medicine Hat, Taber, Picture Butte, Peace River and Edmonton.

Cabbage

A large crop of cabbage was put into storage. The need for high storage humidity is very evident, with the breakdown that occurs in root cellars.

The early cabbage market was good, prices for the product out of storage have been fair.

Main production areas are Peace River, Edmonton, Picture Butte, Taber and Medicine Hat.

Potatoes

The Alberta Potato Commission was active in promoting research into problems of the industry and the promotion and advertising of Alberta potatoes.

Potato yields and quality, particularly under irrigation, were reported to be good.

T. Fujimoto and Sons of Rainier, won all three of the major awards for potatoes at the Toronto Royal Winter Fair. This was an unprecedented sweep.

Markets were fairly steady. Value for duty was implemented on United States potatoes in October but was withdrawn in November.

The main production areas are Taber, Vauxhall, Rosemary, Brooks and Edmonton.

Processing Crops

Alberta's processors experienced a very odd production year. An excellent pea crop was harvested but harvesting extended approximately a month longer than normal. Corn was harvested into October and carrots were still being dug in late November. Carrot yields were reported as high as 40 tons gross per acre.

The pickling industry suffered badly as production dropped far below normal. Difficulty was again experienced in obtaining contract growers. For the first time a mechanical cucumber picker was used by the Bick's company. There will be an increase in this type of operation in the future.

Greenhouse Crops

Tomatoes and cucumbers are the main vegetables produced under glass and recently some lettuce has been grown. The total production has increased significantly, mainly due to the efforts of the central marketing agency. Most of the total production is in Medicine Hat and Redcliff.

Other Activities

During 1968, Alberta's vegetable and potato industry took some forward steps. Red Hat Co-operative at Medicine Hat and Redcliff were relocated in new premises in Redcliff. Newell Vegetables Limited at Brooks constructed the initial stage of their proposed packing complex. Pak-Well Produce at Vauxhall and the Edmonton Potato Growers continued their central packing efforts with potatoes and other vegetables. A less encouraging situation occurred at Taber where Alta-Fresh Produce Limited closed its doors to the industry and is currently for sale. A mushroom farm was constructed in the Brooks area and will be in production in early 1969.

The pilot plant project continued with numerous studies undertaken. The main one will be a turnip waxing and marketing study. Two new projects were initiated under this section; a pea variety evaluation study was conducted by Clayton Campbell, B.Sc., a summer employee; and a commercial tobacco experiment was conducted with the co-operation of the tobacco industry.

The Special Crops Supervisor continued to publish a regular newsletter for the fresh vegetable industry and a regular weekly price list.

The Special Crops Supervisor serves on numerous committees. He is a director of the Alberta Fresh Vegetable Growers' Association and the secretary for the Elite Seed Potato Growers' Association of Alberta.

During the course of the year, 114 farm calls were made, 26 short courses and/or meetings were addressed, 11 other meetings of interest were attended, three field days were addressed and two continuing education courses were attended. A single television appearance was made and three radio interviews were taped. In addition, numerous enquiries were answered by mail and telephone.

The Special Crops Supervisor represented the Alberta Department of Agriculture at the Canadian Horticultural Council in Ottawa at their annual meeting.

HORTICULTURAL STATION, BROOKS

Tuber Indexing of Foundation Potato Seed

The service of indexing foundation potatoes was continued by the Horticultural Station, Brooks and the Plant Protection Division of the Canada Department of Agriculture. Twenty-three growers took advantage of the program and submitted 1,244 tubers for testing. Of these, 709 tubers (57%) were rejected mainly because of mosaic virus disease. Some leaf roll and spindle tuber was also detected. Tubers of the following varieties were submitted by the growers — Netted Gem, Norland, Viking, Norgold Russet, Warba, Pontiac, Chinook and Bliss Triumph.

Capital Improvements and Maintenance

The greenhouse structures near the main building were completed in 1968. Tensiometers and a fertilizer injection system were purchased for the experimental greenhouses. Two additional infra-red units were installed in each house and the side walls were insulated. A mist system was purchased for the propagation section of the greenhouse.

A new chemical storage and service shed was erected, and two field sheds were installed in fields for the convenience of staff and summer laborers. The field sheds are large enough for some equipment storage.

Further land levelling was done at the Isolation Station, bringing the total to 13 acres available for planting in 1969. Only one plot was levelled at the main station.

The new gated pipe system started in 1967 has proved satisfactory and this was expanded during the year. Four plots may now be irrigated by this system simultaneously.

The repair of the main entrance pavement was carried out by the Department of Highways.

Station Projects

Of the 62 station projects, 57 were active during the past year. These were divided among vegetables, ornamentals, fruits, and tree production. All sections have access to laboratory facilities, which improved significantly during 1968. Herbicide and pesticide projects were assumed by each segment of the station work, due to the lack of herbicide personnel.

Vegetable projects encompassed trials in which 827 varieties of 42 kinds were screened and tested. One hundred and fourteen varieties of 31 kinds of vegetables were also grown at the three Agricultural and Vocational Colleges. We express our appreciation to the instructors of the colleges for the significant improvement in the handling of these trials. We now have reached the stage with the interpretation and evaluation of the varietal trials at these institutions that will allow us to use the results during renewal of the Alberta Horticultural Guide.

Tomato breeding and selection work was done among 43,673 plants which were divided among 550 selected lines. The largest family in this group are the dwarf type selections. Many of the new paste type crosses look promising for the development of a firmer fresh market tomato. The station-introduced variety, 'Red Bobs', was widely used as breeding material, even in Singapore, because of its heat tolerance. Four advanced seedlings were tested by 40 research institutions and BV2109-GTD and BV2050 became highly regarded in California and Texas.

Progress has been made with the cabbage and pepper breeding programs. Castle pepper was introduced to the trade. Station staff were deeply involved with the prairie regional section of the National Potato Trials.

A report on the use of "Potato Vine Killers" was presented at the annual meeting of the Alberta Potato Commission.

Additions were made to the chrysanthemum, tulip, peony, iris, herbaceous perennials and rock garden plant collections. The tulips were re-established in a new location. The annuals collection, particularly the new varieties of petunias, were a focal point in the landscape. Establishment of a new rose garden and a holding nursery for woody ornamentals was also accomplished this year.

A budding program involving woody ornamentals was continued in 1968. In June, a wooden framework covered with fulcon and equipped with an automatic misting system was erected for propagation by soft-wood cuttings. Rows of trees for seed production are being set out and the old seed blocks are gradually being removed. Fall seeding and use of open beds are two practices in common use at the station. Shipments of 110 4-H bundles, 400 fruit bundles, and 235,240 plants for shelterbelts were made in the spring of 1968.

A shelterbelt renovation and replanting program was carried out with the co-operation of the Federal Department of Forestry.

Spring and fall tomato crops were planted in the experimental greenhouses, consisting of 24 varieties in nine replications in each of these crops.

An insect and herbarium collection was started.

Work in pomology covered several breeding, testing and cultural projects involving tree fruits such as apples, apricots, cherries, plums and pears; small fruits including raspberry, strawberry, bush cherries, currants, and gooseberries, and rhubarb. Rootstock and herbicidal work were also investigated. Nine apple selections from the Prairie Co-operative Fruit Breeding Project have been planted in an advanced test orchard. Use of growth retardants in raspberries indicate possible winter survival without routine protection. The establishment of a tree fruit tub orchard in the greenhouse has facilitated breeding work in winter.

Education

The station hostess and staff members entertained some 1,300 casual visitors. Above this amount, 881 persons attended 12 organized visits to the station. The annual station field day drew a record crowd of 500 persons. This field day covered all aspects of practical horticulture.

Staff days involved in organized meetings totalled 46, in field days and demonstrations 18, judging and assistance at horticultural shows 18, short courses, speaking engagements and T.V. appearances 18, visits of an advisory nature to farms, greenhouses and growers 58 days. Some members of the professional staff also attended meetings of the Western Canadian Society for Horticulture in Winnipeg, Alberta Horticultural Association annual meeting, Advisory Committee for the Vocational and Agricultural Colleges, Alberta Potato Growers' Association annual meeting, Departmental Conference, American Society for Horticultural Science (Great Plains Section) Winnipeg, American

Society for Horticultural Science, Davis, California. While at the latter meeting, Mr. Molnar, olericulturist at the station, also participated in a vegetable tour of southern California.

Station staff assisted with the construction of the agricultural display at Flare Square during the Calgary Exhibition and Stampede, and also were in attendance as host at the display to answer queries by the public.

Mr. Hargrave, Superintendent, spent three months at the University of California for the fall quarter specializing in landscape architectural design.

The station library is being catalogued which will facilitate its use.

Appreciation

The efforts and co-operation of the professional and technical staff of the Department of Public Works has been most valuable during the past year. Access to, and the use of, research equipment from the National Defense Research Station, Ralston, and the Canada Research Station, Lethbridge, has proved most useful. We have had the support and guidance of the Station Advisory Committee. Assistance from people in industry, in particular the Imperial Tobacco Company, at Research institutions and from universities has been generously given. Assistance given by the officers of the County of Newell, the Town of Brooks, and the Eastern Irrigation District has helped greatly in making the year's work on the station satisfactory.

To all of these people, the station and its staff has been most grateful.

REPORT OF THE PROGRAM DEVELOPMENT DIVISION

1968

C. J. McANDREWS, B.Sc., M.Ag., P.Ag., Director
C. D. Radke, B.A. Hon., Executive Assistant

A.R.D.A. Branch: Agricultural Rural Development Administration (seconded to the Human Resource Development Authority as of October 1, 1968)

Edmonton Office:
G. R. Sterling, B.Sc., M.Sc., P.Ag., Head, A.R.D.A.
E. B. Nagle, Liaison and Public Information Officer

Edson Office:
A. F. Belyea, B.Sc., M.Sc., P.Ag., Regional Resource Co-ordinator
P. J. Sheehan, Mrs., B.Sc., Assistant Regional Resource Co-ordinator
G. Gillund, B.Sc., Regional Resource Co-ordinator in Training
R. Warriner, Community Advisor (temporary)
R. C. Acorn, Mrs., Community Advisor
L. O. Bossert, Community Advisor
M. H. Halder "Sister", B.Sc., Home Development Agent
Shirley Myers, Miss, B.Sc., B.H.Ec., Home Development Agent
J. Shuel, Education Counsellor (temporary)
R. Christopherson, Mrs., Home Visitor

St. Paul Office:
L. Gareau, B.S.A., M.Sc., P.Ag., Regional Resource Co-ordinator
E. R. Zawadiuk, Miss., B.Sc., Assistant Regional Resource Co-ordinator

Fairview Office:
F. Graves, B.Sc., M.Sc., P.Ag., Regional Resource Co-ordinator
K. Sorenson, Miss, B.Ed., Assistant Regional Resource Co-ordinator

Slave Lake Office:
N. W. Gilliat, Regional Resource Co-ordinator

Resource Conservation and Utilization Branch
H. W. Thiessen, B.Sc., M.Ag., P.Ag., Branch Head
S. M. Scott, B.Sc., P.Ag., Canada Land Inventory Co-ordinator
A. A. Lupton, B.A., M.A., Agricultural Geographer

Agricultural Products Marketing Council
D. H. McCallum, B.S.A., P.Ag., Chairman
C. H. Ferries, B.S.A., M.S., P.Ag., Secretary

Municipal Agricultural Programs Branch
J. R. Gylander, B.Sc., P.Ag., Branch Head

Irrigation Secretariat
J. H. Graham, B.Sc., P.Eng., Manager
M. H. Pitcher, Assistant

REPORT OF THE DIRECTOR

The Program Development Division is responsible for the establishment of new agricultural programs and the administration of programs that are not readily identified with a specific discipline of the other divisions. Considerable time in 1968 was devoted to improvement of existing programs and the establishment of new programs which require a multidisciplinary approach. The division's co-ordinating role in this regard became apparent during the year.

Branches of the division are identified with their program reports. The Irrigation Secretariat became operational August 1, 1968, with the recruitment of J. H. Graham as manager. Activities in this area up to August 1 are reported in the special projects section of the director's report.

Administration of Branches

1. The A.R.D.A. Branch continued its work in rural and agricultural development with considerable confidence gained from successful records of achievement. In October, the entire branch was functionally seconded to the Human Resources Development Authority. Funding and general administration was left with the Department of Agriculture.
2. By May, the Canada Land Inventory was fully integrated under the Conservation and Utilization Branch. During 1968, the Conservation and Utilization Branch drafted, revised and edited land clearing regulations guaranteeing loans for farmers to enable them to put additional agricultural land into production where this is desirable and feasible.
   The Conservation and Utilization Branch moved progressively toward the development of a comprehensive and integrated land use policy for the province.
3. The Agricultural Products Marketing Council continued to administer and supervise marketing boards and commissions already in operation. In addition, it assisted in setting up an Egg Marketing Board and appointed a provisional executive. In November, a Hog Producers Marketing Board was approved by registered voters and work was begun to put the Board into operation.
4. The Municipal Agricultural Programs Branch played an important part in the supervision of agricultural fieldmen, and administered the Agricultural Manpower program which provided farm labor to the southern area of the province.

H.R.D.A.

The Director was seconded on a 50%-70% basis to the Human Resources Development Authority as of October 1, 1968, as chairman of the Joint Specialist Group. Considerable time was devoted during the latter part of 1968 to developing the concepts and procedures to be followed in the operation of the Joint Specialist Group. Terms of reference for the group were drafted and reviewed and staff orientation meetings were held. The review and analysis of several projects for 1969 were initiated, and the success of various projects now in operation was under cursory evaluation.

Special Projects

1. Irrigation Council — Considerable time, during the first months of 1968, was devoted to discussions with irrigation districts and irrigation policy and legislative committees with regard to drafting and reviewing Bill 41, a new Irrigation Act. After several reviews and amendments, the Irrigation Act, 1968, was passed by the Legislature and the organization for implementing the act set in motion. Administration of the Irrigation Act and the development of the Irrigation Secretariat was assigned to this division.

   The Irrigation Council began meeting monthly and boards of directors were appointed to replace the official trustees and crown corporations. By the time the act had been assented to all matters of executive control were in order for transfer of duties to boards of directors. The act rescinded the L.N.I.D. Colonization Act and provided for the rescinding of the U.I.D. Colonization Act.

   By May, the Irrigation Secretariat office was set in motion and by August a manager and assistant for that office had been appointed. Although irrigation districts found the initial transition to the new act to be laborious, the affairs of the districts are now beginning to run more smoothly.
   Members of the Irrigation Council as of December 1, 1968 are:

   Hon. H. A. Ruste, Chairman
   Hon. H. E. Strom, Member
   N. S. Thomson, Member
   R. E. Bailey, Member
   C. J. McAndrews, Vice-Chairman
   J. H. Graham, Secretary

2. An executive assistant, C. D. Radke, was recruited to assist in the administrative function of the division.
3. A key-sketch of "Lines of Communication" for the Department of Agriculture was prepared and submitted to the Executive Committee for approval.
4. The director participated in setting up a Budget Committee for the department and in the procedures used in 1968.
5. The director sat on the Grants Committee of the A.A.R.T.
6. The director was named as vice-chairman to the Alberta Recreation Committee which co-ordinates all recreational activities in the province, and participated in setting up a Recreation Secretariat.
7. Two consultants and a university student (summer) were engaged to develop a system to recover research material for Department of Agriculture staff. Two alternative systems were developed and one chosen to develop further. The

long-term objective of a comprehensive and centralized but easily accessible computerized system was approved in principle.

8. This office participated as the compiler of division statements and the formulator of consensus for the department in supplying information to the Federal Task Force on Agriculture.

9. Considerable time was devoted to the study of pollution in Alberta.

10. The director participated in finalizing arrangements to begin a comprehensive study of agricultural extension in the Province.

11. Investigation of existing and alternate mailing systems was undertaken to advise where improvements could be made.

12. Considerable time was spent during the first part of the year discussing and negotiating classification review with the Personnel Administration Office and the directors.

AGRICULTURAL & RURAL DEVELOPMENT ADMINISTRATION

The Head of the ARDA Branch attended 55 co-ordinating type meetings involving various provincial and federal government agencies. He also attended and participated in 25 public meetings throughout the province. He chaired 9 meetings of the ARDA Advisory Committee. This committee was terminated as of October 1 when the ARDA Branch was transferred to the Human Resources Development Authority. He acted as secretary-member at 8 meetings of the ARDA Co-ordinating Committee, and as secretary of two meetings of the Alberta ARDA Joint Advisory Committee. Four staff meetings were held.

The Head of the ARDA Branch attended a two-week course on business administration at the Banff School of Fine Arts. He also attended a meeting at Jasper of the ARDA co-ordinators for the four western provinces along with Federal ARDA personnel. He was asked to travel with the M.L.A.'s to discuss ARDA projects with them as they toured Northern Alberta and a short trip into the North West Territories.

Miss Karen Sorenson was appointed as assistant regional resource co-ordinator at Fairview as of September 1. Mr. Neil Gilliat was appointed as regional resource co-ordinator for the Slave Lake-High Prairie area on November 1.

ARDA Advisory and ARDA Co-ordinating Committees

The membership on these committees remained the same as reported in the 1967 annual report. After the transfer to HRDA, these two committees were subsummed by the HRDA Joint Specialist Group and the HRDA Advisory Committee. The HRDA Joint Specialist Group consists of about 60 specialists in the various departments of government. The HRDA Advisory Group consists of eight Deputy Ministers with Dr. Ballantyne as chairman, and the Head of the ARDA Branch as secretary of both committees.

A detailed report of the programs in Census Divisions 12, 14 and 15, along with the report from the Public Information Officer follow the description of the individual ARDA projects handled.

The following is a brief summary of the ARDA projects handled by the ARDA Advisory Committee, ARDA Co-ordinating Committee, Provincial Cabinet and Federal ARDA. Some projects were rejected by some of these committees, consequently all projects were not handled by all of the groups.

Project 1/68—Forest Land Use Capability Classification (Approved)

This project is part of the Canada Land Inventory covering forest land use capability.

Project 2/68—Water Capability for Sport Fish (Approved)

This is part of the Canada Land Inventory to study the capability for sport fish in lakes throughout the province.

Project 3/68—Mapping of Present Land Use in the Forest Reserves and Hinton N.W. (Approved)

This is part of the Canada Land Inventory and this project will complete the mapping of present land use.

Project 4/68—Alberta Recreational Land Inventory (Approved)

This is part of the Canada Land Inventory and continued the recreational sector of it.

Project 5/68—Addendum to Canada Land Inventory Projects (Approved)

This project called for approval of a projected budget for all sectors of the Canada Land Inventory through to completion.

Project 6/68—Tangent Training Program (Awaiting Federal Approval)

This project involved a concentrated extension program for the farmers in the Tangent area.

Project 7/68—The Alberta Service Corps (Awaiting Federal Approval)

This is a project to provide service corp personnel for areas with socio-economic problems.

Project 8/68—Canmore Study (Approved)

This project involved a study of the Canmore area from the land use standpoint, particularly recreation.

Project 9/68—Fresh Vegetable Study (Approved)

This was a renewal of an older project (9037) with the same title.

Project 10/68—Approval of the Value of Land Levelling in the Irrigation Districts of Southern Alberta (Approved)

This was a renewal of an older project (28019) which involves the value of land levelling in irrigation districts.

Project 11/68—Elizabeth Community Pasture (Approved)

This project covered pasture development on the Elizabeth Metis Colony.

Project 12/68—East-West Prairie Rivers (Awaiting Federal Approval)

This project was a supplement to an already existing project for the development of drainage and flood control in the East-West Prairie Rivers.

Project 13/68—Soil Capability Classification for Outdoor Recreation in Shorelands and Nearby Uplands of Selected Lakes in Alberta

This project was turned down by the ARDA Advisory Committee.

Project 14/68—Communication Channels

This project was to study the communication channels in a specific area. It was approved by the advisory and co-ordinating committees, Treasury Board, and Cabinet, but held by Federal ARDA until more work is done regarding FRED plans.

Project 15/68—Alberta Recreation Committee Secretariat (Approved)

This project was to provide a secretariat to the recreation committee to study the recreational work in various departments of government.

Project 16/68—Water Development Studies (Approved)

This was a supplement to an existing project of the same title. (28004).

Project 17/68—Alberta Native Communications Research (Approved)

This project involves communications amongst native people and is being done by the natives to evaluate their own communications media.

Project 18/68—Beaver Lake Indian Reserve Pasture (Approved)

This project involves the development of a community pasture on the Beaver Lake Indian Reserve.

Project 19/68—Request for Assistance under Section 30 (Approved)

Under Section 30, which is renewed every year, a sum of money can be approved which is used by the provincial government for projects that may not fall under other sections of the act.

Project 20/68—South Caslan Colony Ranching Project (Approved)

This project involves a community pasture and ranching project on the South Caslan Colony.

Project 21/68—ARDA Staff for C.D. 15 (Approved)

This project involved the placing of ARDA staff in Census Division 15.

Project 22/68—Reforestation, Slave Lake (Awaiting Federal Approval)

This project involves reforestation in approximately four townships of land south of Kinuso. It also is intended to be used as a training program for natives in that area.

Project 23/68—Spring Creek Watershed Research (Awaiting Federal Approval)

This is a supplement to Project 28005, which was a watershed research study.

Project 24/68—Alberta Parks Program

This project involved development of parks in rural development areas. This was approved by the advisory and coordinating committees, Treasury Board and Cabinet, but Federal ARDA requested that it be changed into two programs, one covering Miquelon Lake and the other covering the balance of the project. Both were approved.

Project 25/68—Pastures in rural Development Areas (Awaiting Federal Approval)

This was a supplement to 28025.

Project 26/68—Smoky Lake Agro-industrial Development (Rejected)

This project involved a study of an agro-industrial complex in the Town of Smoky Lake.

Project 27/68—Land Clearing & Development in C.D. 12 (Awaiting Federal Approval)

This project involved land clearing and development in Census Division 12.

Project 28/68—Park Development in M.D. of Bonnyville

This was a project for park development within the Municipal District of Bonnyville, and was tabled by the advisory committee.

Project 29/68—Saddle Lake I.R. Extension Service Staff (Awaiting Federal Approval)

This project provided for extension staff to work on the Saddle Lake Indian Reservation.

Project 30/68—HRDA Communications Services

This is a supplement to the Public Information Services (28050). It was presented to the Standing Committee of the Joint Specialist Group of HRDA, and has been sent to a panel of government publicity people for their consideration and recommendation.

Project 31/68—Alberta Native Communications Society

This project was submitted by the Alberta Native Communications Society, and involves an extension program for native peoples to be done by native peoples. This program was presented to the Standing Committee of the Joint Specialist Group and was sent to a panel of specialists for review and recommendation.

Project 32/68—Study of Fishing Industry in the Alberta Portion of Lake Athabasca

This is a project to study the possibility of a fishing industry by native peoples at Lake Athabasca. It was presented to the Standing Committee of the Joint Specialist Group and referred to the Land Utilization Committee for discussion.

Project 33/68—Blackfoot Co-operative Enterprises Limited Pasture Development

This project was presented to the Standing Committee of the Joint Specialist Group by the co-operative through Mr. Vic Janssen. At the close of the year it was approved by this group.

Project 34/68—Kainai Co-operative Enterprises Limited Pasture and Livestock Feeding Project.

This project was presented to the Standing Committee of the Joint Specialist group and was approved.

PUBLIC INFORMATION SERVICES

The seconding of ARDA to Human Resources Development Authority by O.C. 1768/68 necessitates the division of this report into two time sectors:

(a) January 1 to September 30 — ARDA Information Services Report to Program Development Division,

(b) October 1 to December 31 — ARDA Information Services Report to Human Resources Development Authority

Meetings Attended

A total of 151 meetings were attended during 1968 to deal with:

(a) the dissemination of information,

(b) improved co-ordination of agencies concerned with rural development,

(c) Liaison between people and government agencies.
January 1 to September 30—115 meetings
October 1 to December 31—36 meetings

Publicity and Public Relations

(a) **Film**—"Documentary on ARDA Map" — Produced by the National Film Board for national coverage.

(b) **Television Production — January 1 to September 30—ARDA**

1. "A Park is Born" — Frank Belyea and Pat Sheehan—a presentation on how social action was used in project implementation.
2. Background to Indians in Alberta—Clayton Sauve
3. Industrial Change in the North—Jerry Bigham
4. Research and Agricultural Change—Paul Stelmaschuk
5. ARDA Projects in Alberta—G. R. Sterling

October 1 to December 31—HRDA

1. CBC television program on HRDA with Neil Gilliat and G. R. Sterling

(c) **Exhibits—Calgary and Edmonton**

January 1 to September 30—ARDA

1. Complete ARDA Display Map. The map showed ARDA projects throughout Alberta, designated by individual lights. Information was supplied to listener-viewers by electronically controlled tape recorders and telephones.

October 1 to December 31—HRDA

1. ARDA Exhibits—Legislative Building—displayed for six months. Rewrote and retaped messages for HRDA-ARDA map.

(d) Publications—Sent to complete mailing list (2,500)

January 1 to September 30—ARDA

1. Agriculture CD 12
2. Education CD 12
3. ARDA in Northwestern Alberta

October 1 to December 31—HRDA

1. "Second Report and Review" by Canadian Council on Major Problems in Rural Development

(e) **News Releases**—Sent to complete mailing list (2,500)
January 1 to September 30—ARDA
18 news releases
October 1 to December 31—HRDA
2 news releases

(f) **Reports**—Sent to complete mailing list (2,500)
January 1 to September 30—ARDA—5 reports
October 1 to December 31—HRDA—1 report

(g) Tape recording for radio and television appearances by resource personnel in 1968—a total of 10 resources persons were either taped or recorded for radio or appeared on television during 1968.

(h) **ARDA Project Signs Erected in 1968**
January 1 to September 30—ARDA
Census Division 14-17 signs, Census Division 15-10 signs; Census Division 12-4 signs
October 1 to December 31—HRDA—1

(i) **Radio**
October 1 to December 31—HRDA
Pilot series of radio broadcasts relating to Human Resources Seminar from CJYR, Edson — ½ hour broadcasts on a "listener-participation" open line program which will stimulate thought and provoke participation among listeners—to commence February, 1969.

(j) **Speaking Engagements**
October 1 to December 31—HRDA
Series of four lectures—Edmonton High School on HRDA-ARDA.

(k) **HRDA Logo (Symbol)**
October 1 to December 31—HRDA
Designed for news release mastheads and letterheads to be used by all agencies directly seconded to HRDA.

ST. PAUL, REGIONAL H.R.D.A. - A.R.D.A. OFFICE

From January 1 to September 30, 1968, the regional ARDA staff members were employed by the Department of Agriculture. On October 1 the staff was seconded to the Human Resources Development Authority, and from October 1 to December 31 functioned in this new capacity.

Business continued as usual in this function. Programs which had been started earlier in the year continued. The only new program was a co-ordination meeting between Health, Welfare, and Extension to discuss the possibility of a team approach in certain acute problem areas in C.D. 12. The meeting met with little avail because of the percentage of new staff in the various agencies represented who were unfamiliar with the area or the problems. Areas were defined and certain problems discussed, but until such time that the staff becomes more familiar with their work and the area in which they work, no team program will be tackled. One pilot project will be attempted in the Wolf Lake area.

The following activities were carried out:

1. Saddle Lake Centennial Development Program
2. Farm Consolidation Program
3. Land Development Program
4. Voluntary Home Visitors Program, Fort McMurray
5. New Projects Adopted
   —Elizabeth Colony Pasture Project
   —Beaver Lake Indian Reserve Pasture Project
   —South Caslan Pasture Project
   —Extension Staff Project Saddle Lake
6. Projects presented and tabled include Smoky Lake Agro-Business Bonnyville Parks Development
7. New Projects under consideration were Kehiwin, Kikino, Goodfish, Fishing Lake, Frog Lake, Saddle Lake
8. Miscellaneous

The following active rural development projects were carried out:

Saddle Lake Centennial Development Association Program

(a) Land Development

1. by contract
   —clearing of 3,100 acres
   —breaking of 2,950 acres
   —tendering for clearing additional 5,000 acres

2. by induced local effort
   - —burning 3,100 acres
   - —disking 2,950 acres
   - —root and rock picking 2,950 acres
   - —cutting and treating 8,000 fence posts
   - 132 native people involved

(b) Human Development — Education

1. Two-week agricultural orientation short course.
2. 15 meetings of board re: planning of operations. (4 after October 1)
3. 9 meetings of introductory course to home management. (24 participants)
4. 3 organization meetings re: Cree language courses.
5. 16 home visits to organize sewing clinic.
6. 3 field trips re surveying potential for community pasture development.
7. 1 organization meeting and 1 joint program with Canadian Utilities re: use of small electrical appliances (attendance 30).
8. Organized 3 bus tours to Craig's Farm Equipment, Morinville, and Alexander Reserve, Minburn Hutterite Colony. Facilities of V.A.V.C. (attendance 110)
9. Arranged tours of Saddle Lake for Farm Writers' Association, and for provincial and federal ARDA staff.
10. Assisted Band project for prefabricated housing.
11. Arranged for CBC and MEETA to record and film publicity programs.
12. Co-operated with Canada Manpower in directing to retraining and upgrading twelve individuals from Saddle Lake.
13. Assisted Indian Affairs Adult Education Division in programming.
14. Acted in advisory capacity to Extension Branch, D.A.'s and D.H.E.'s in planning winter program.
15. Assisted in arranging and attended Pow Wow celebration.
16. Assisted Rural Development Research Branch in conducting evaluation and assessment in Saddle Lake Band Development Program.
17. Assisted in the preparation and submission of an Agricultural Extension Staff Project providing the full services of a D.A. and D.H.E. to the Saddle Lake and Goodfish Lake Joint Indian Board.

Farm Consolidation Program

To serve in an advisory capacity in the implementation of the program, farm adjustment committees were appointed at Lac La Biche, Bonnyville and St. Paul.

(a) The Lac La Biche Committee
Gerry Sykes, Lac La Biche, Farmer
Peter Beniuk, Lac La Biche, Farmer
Albert Girard, Lac La Biche, Farmer
Harvey Yoder, Lac La Biche, District Agriculturist
Les Bartment, Lac La Biche, Municipal Inspector and Assessor
O. Glandfield, Lac La Biche, Lands & Forests Use Officer
W. Kuly, St. Paul, Public Lands Inspector

(b) The Bonnyville Committee
Paul Brosseau, Bonnyville, Farmer and Businessman
Marcel Vincent, Bonnyville, Farmer & M.D. Councillor
Romeo Lauzon, La Corey, Farmer
Paul Novak, Goodridge, Farmer
Dennis Simpson, Bonnyville, District Agriculturist
Nick Hanewich, Bonnyville, Municipal Inspector
Ron Ball, St. Paul, Public Lands Inspector & Supervisor

(c) The St. Paul—Smoky Lake Committee
Herb Minchau, Spedden, Farmer
Peter Goruk, Bellis, Farmer & Councillor
John Drobot, Elk Point, Farmer & County Reeve
Fernand Belzil, St. Paul, Farmer
Dan Lefsrud, St. Paul, District Agriculturist
Ron Ball, St. Paul, Public Lands Inspector & Supervisor

The regional resource co-ordinator acted as chairman of each committee.

Each committee met 6 times during the year, 3 times before October 1, and 3 times after. Following is a breakdown of activities carried out in farm adjustment and consolidation during the year:

Farm Purchases

1. Applications considered	41
Applications approved	29

2. Appraisal and offers made on 33 parcels, 5,090 acres at a value of $190,000.00.

3. Purchases completed on 3 parcels, 471 acres for $29,995.00

Farm Sales

1. Applications considered	20
2. Applications approved	14
3. Parcels approved	17
4. Acreage approved	2,134

Cultivation Leases and Permits

1.	Applications considered	5
2.	Applications approved	3
3.	Parcels approved	6
4.	Acreage approved	960

Grazing Leases & Permit Applications

1.	Considered	25
2.	Approved	23
3.	Parcels approved	100
4.	Acreage approved	13,924

Other

1.	Other miscellaneous requests	4
2.	Direct farm visits by staff	36
3.	Direct office interviews re counselling	68
4.	Indirect calls and office interviews	150

5. A Land Use Technician, hired by the Land Utilization and Conservation Branch in October, has been appointed to assist with the Program in C.D. 12.

Private Land Development Project

Upon the recommendation and urging of the three local farm adjustment committees, the Private Lands Development Project for C.D. 12 was resubmitted to the Provincial ARDA Advisory Committee and approved by the province. One hundred and fifty farmers hope to be able to take advantage of the program.

Voluntary Home Visitors' Program at Fort McMurray

The Fort McMurray Home Visitors Program is a voluntary effort by the Baptist Women's League to work with fifteen families, using the total family approach under the direction of the assistant regional resource co-ordinator. Her role in the project is to act as an advisor to the group, directing them to various sources of help when they need it. The success of the program varied because of the transiency of the population of Fort McMurray. Of the twelve home visitors who started the program, seven moved away. Four of the families whom the home visitors had been working with have also moved away. However, the group continued its efforts. New members in the league were slowly introduced to the job by other members of the group.

Elizabeth Colony Projects

(a) Pasture Project: As a result of over one year's program of meetings and studies, a $90,000 ARDA grant for the development of the pasture potential was given final approval in September 1968. The settlers of the Elizabeth Colony, under the direction of their colony manager and district agriculturist, began brushing their fence lines and getting out their fence posts with the expectation that the pasture will be ready to take in cattle in the 1969 season.

(b) A Homemakers' Club was organized on the Colony for the first time. Fourteen members operated a garden club during the spring and summer and a clothing and handicraft club during the fall and winter.

Beaver Lake Pasture Project

This project, designed and presented in the spring of 1968, received final federal approval late in the fall for a grant of $24,000. A small amount of fence line clearing, along with drainage and water control work investigation was carried out. Some clearing is now being tendered out.

The South Caslan Ranching Project

This project, developed during the early course of the year, was submitted in June and received final approval for $25,000 of ARDA funds.

Assistance by the regional staff was given to the Town of Smoky Lake and the M.D. of Bonnyville in the preparation and presentation of two submissions for assistance in:

1. The feasibility study of an Agro-industrial Development Complex.
2. The comprehensive development of a Parks Program for the Municipal District of Bonnyville.

The first project was rejected and the second has been tabled by the Provincial ARDA Advisory Committee.

New Projects

Six new projects involving the development of land and people on Metis Colonies and Indian Reserves were under consideration and study by the staff. They involved the following:

1. The Kehiwin Reserve Pasture Project
2. The Kikino Metis Colony Community Pasture Project
3. The Goodfish Lake Reserve Ranching Project
4. The Fishing Lake Metis Colony Livestock Project
5. The Frog Lake Reserve P.F.R.A. Pasture Development
6. The Saddle Lake Livestock Development Project

Miscellaneous Activities

Besides devoting full energy to the above, C.D. staff also:

1. Assisted in manning of ARDA Booth at Calgary Stampede and Edmonton Exhibition; attended Career Fair in St. Paul.

2. Distribution of 2,500 progress reports.
3. Addressing special groups — sixteen different groups were spoken to, on a variety of subjects.
4. Attended and assisted at eighteen meetings on specific topics.
5. Acted as judge for 4-H competitions, fairs and exhibitions.
6. Prepared and appeared on three T.V. programs.
7. Assisted Indian Affairs Branch Adult Education Specialist with Homemakers Club at Kehiwin and Frog Lake Indian Reserves.
8. Assisted the District Home Economist with—
   (a) Sewing clinics at St. Paul, Bonnyville, Elk Point, Kikino, and Saddle Lake.
   (b) Food Catering Workshops at Fort Ken.
9. Attended a tour of Henwood House at Oliver. Visited staff in the Edson and Peace River District and studied projects being carried out. Also met with Archbishop Routhier to discuss problems and solutions of rural poverty in Northern Alberta.
10. Spent some time proof-reading the B-12 report and discussing various aspects of long term planning and project implementation with Rural Development Research Branch.

In summary, in miscellaneous activities alone, the staff participated in some 66 public functions which have reached an estimated 5,000 members of the public. To this can be added a substantial number of formal and informal office calls, farm and home calls which cannot easily be recorded.

EDSON, REGIONAL HRDA - ARDA OFFICE

The year started with great excitement when the Comprehensive Plan was approved. The Edson staff welcomed the Honorable Maurice Sauve and the Honorable Harry E. Strom, as well as other dignitaries of the federal and provincial governments, to meet with many local leaders on the occasion of the official signing.

Programs that commenced in 1966 and 1967 were stabilized during the past year and have advanced sufficiently to evaluate results.

The Farm Adjustment Committee, meeting on a regular basis, handled all questions related to Crown land and the purchase of farms in C.D. 14. The acceptance of this committee by people in the area was good.

The Home Visitors Program continued to serve as the major communication link with low status families. Several home visitors went into the next phase of the program and developed groups involving homemakers they were visiting.

Counselling for personal planning to return to school had top priority. It was possible to evaluate the counselling process used as the major contributing factor to the success of this program. The continuum from the local office to the training agency with family reinforcement, both preceding and following the family move to the training centre, proved to be essential if the trainee was to achieve his goals.

Communities in the area were more aware of possibilities for development as a result of the continuous community organization work. Recreation was one of the major concerns of most communities, with great interest also in trying to improve community services.

In 1969, greater emphasis will be placed on the development of the potential of the area in the field of tourism. While much preliminary work has been done, interest in tourism is expected to greatly increase with completion of the Yellowhead Highway.

Dissemination of Information

Advisory Council and Zone Development Committees

The Advisory Council expressed the desire to meet regularly to discuss progress of the various programs and suggest other areas of concern.

Technical Panel

Interdepartmental meetings were frequently held around problems. Two meetings were held involving most departments to discuss overall planning in C.D. 14 and to plan an integrated approach in the Marlboro community.

Agricultural Committees

Meetings were held to discuss land adjustment in communities and to give further information on such programs as education and land clearing. This also included work with farm management groups.

Recreation Committees

Various communities took an active interest in developing beaches adjacent to their centres. Much of the development involved co-operation with Municipal Affairs.

Forest Products Committees

Following formation of the Forest Producers and Haulers Association, this group was able to work out most of its own problems. Considerable work was done in co-operation with the community development officer to organize a Pulp Cutters Co-op in the community of Marlboro.

Leadership Development and Training.

Requests from the Department of Youth and Toastmistress International to participate in leadership seminars were met.

Community Organization

This continued to have major emphasis as a communication link between communities and office staff. It was a means of information giving and feedback. Community organizations actively sought assistance in planning to meet community goals.

Youth

With a district youth representative in this area, the staff served as resource personnel to assist in his programs. Three Alberta Service Corps personnel were involved in the Muskeg-Grande Cache area this past summer.

Staff Meetings

Regular office staff meetings were instituted on a weekly basis with monthly staff meetings at a provincial level. The purpose was to keep staff informed of various programs and to discuss problem areas.

Miscellaneous Meetings

These included meetings difficult to categorize in the ongoing program. Many included meetings with government agencies or organizations at a provincial level to present the C.D. 14 approach to regional development and included such organizations as the John Howard Society, F.U. & C.D.A., Alberta Association of Registered Nurses, and groups of the Human Resources Development Authority.

It included meetings held with the University of Alberta to plan details of the Resource School to be held in Edson early in 1969.

It included attendance at various departmental functions of other divisions such as the extension regional planning meetings, D.H.E. workshops, and inservice training programs.

It included attendance by various staff at symposia or conferences such as the Alberta Division of the Canadian Public Health Conference, Parameters of Family Practise, Farm Leaders, Social Animation, and Canadian Associations of Consumers.

Finally, it included activities that were held during the official signing and meetings with out-of-province groups and individuals wishing further information concerning the C.D. 14.

Co-ordination

Co-ordination with various agencies was an integral activity of all staff in C.D. 14. Joint planning and co-ordination of activities became more and more a reality. The following departments and agencies were approached for information, and assistance in planning and implementation: Departments of Agriculture, Lands and Forests, Industry and Development, Municipal Affairs, Welfare, Education, Health, Highways, Attorney Generals, Edson Health Unit, Fish and Wildlife, Water Resources, P.F.R.A., Edson Chamber of Commerce, Whitecourt Chamber of Commerce, Town of Edson, Edson School Division, North Western Pulp & Power, Workmen's Compensation Board, Apprenticeship Board, University of Alberta, Human Resources Development Authority, C.B.C., Debtors Assistance Board, Alberta Service Corps, V.O.N., Alberta Commercial Corporation, and Alberta Housing and Urban Renewal Corporation, Indian Affairs, Manpower, Community Development, Federal ARDA, University Testing Clinic, MEETA, Northern Health Services, A.G.T., Research Council.

Farm Adjustment Program

During 1968, the Farm Adjustment program made considerable progress in dealing with items such as land sales, purchases, leases, etc.

Farm consolidation and enlargement, and rural development regulations were introduced. Applicants who were not eligible under the agricultural farm sale regulations may be eligible under the new regulations. The Land Clearing Program, for which the farmers have been working for some time, was approved and it is hoped to be in operation early in 1969.

Several new faces joined the program this year. Grant Gillund, former D.A. at Evansburg, is in training as a regional resource co-ordinator and will take Frank Belyea's place.

Arie Struik was appointed as land use technician for the Conservation and Utilization Branch.

Dick Lowe became the new fieldman representing the Department of Municipal Affairs.

Harold Enfield from the Forestry Division attended the F.A.C. meetings regularly to provide information from the Niton and MacKay area.

A representative from the Department of Highways attended meetings upon request so that access problems could be solved collectively. Representatives from the Forestry Division from Edson and Whitecourt also attended meetings when required.

It is hoped to obtain an additional farmer member from the Niton and MacKay area early in 1969 so the total number of farmer members will be increased to five.

Statistically, 5,740 acres were purchased in the white zone for a sum of $166,620.00. Offers of $80,930.00 on 2,670 acres are still pending and offers on 3,720 acres valued at $116,150.00 were rejected.

In the green zone 1,280 acres were purchased at a cost of $27,500.00. Offers on 850 acres for a total value of $18,427.00 were rejected.

The following is what happened to families from whom land was purchased:

Relocation (Alberta or elsewhere)	—	4
Alternate employment	—	13
Training	—	1
Retired	—	6
Continued farming	—	1

Education

As more people became aware of the many opportunities and the assistance available to them in the way of education and training, counselling increased considerably. Approximately 500 counselling interviews about training were held during 1968.

During the year, three graduated from agricultural college, one in each of horticulture, artificial insemination, and business education. Six others were working towards their diploma course in agriculture and one toward the certificate course.

At present, three people are on course at NAIT, 23 are upgrading at the A.V.T. Centre in Edmonton, one is taking a business course, another barbering, and two are apprenticing.

In March, 12 trainees went through a psychological testing session administered by Dr. Spearman of the Department of Psychology, University of Alberta. In November, another 18 were tested.

An adult math course, funded jointly by the Department of Education (Edson School Division) and the Edson ARDA office, was begun at Peers in early November. The progress of this course is being watched with interest. If it proves to be successful, other such courses may be initiated in other areas of C.D. 14.

A series of seven Monday night orientation sessions was launched on November 25, in the library of the New Parkland Composite High School, Edson. The purpose of the sessions was to prepare the trainees for the new social situation they will be facing, with its accompanying problems.

A bimonthly evening program became operative in Edmonton for the wives of upgrading students. This program offers the wives the opportunity of discussing mutual interests and concerns, as well as the opportunity of participating in informal education through resource personnel. To date, four such meetings were held with attendance of approximately 45.

In September, a second education supervisor was employed in Edmonton to work with these trainees. With an average of fifty trainee contacts per week, plus other duties such as arranging for trainee accommodation, etc., these ladies were kept very busy. A great deal of the success of the education program is attributed to their efforts.

The following are the statistics for 1968:

No. of counselling interviews January-September — approx.	350
October-December — approx.	150
No. who upgraded during 1968	35
No. who upgraded during period to October 31, 1968	24
No. still upgrading as of December 31, 1968	23
No. on course at NAIT	4
No. finished course at NAIT	1
No. of dropouts	3
No. on A.V.T. courses — January-September	2
October-December	1
No. on apprenticeship	2
No. who attended Agricultural college	10
No. who completed Agricultural college courses	3
No. tested by U. of A. Testing Clinic, January-September	12
October-December	18
No. who upgraded and not on course	3
No. who upgraded and now attend Junior High School	1
No. who attended courses at Fort McMurray	2

Home Visitors Program

Nine new home visitors joined us during 1968. Seven of the ladies formed a group working out of Peers. Their training program consisted of four weeks of class sessions and field work. A number of the Edson home visitors assisted in the training through participation in discussions and by having the trainees accompany them on home visits. Again, a number of local and provincial resource personnel took part in the sessions. The training of two home visitors in Hinton took on a new form. Much of their training was conducted by two experienced Hinton home visitors. Additional sessions have been given by the home development specialist and other agency personnel. One in-service training session was held for the entire group of home visitors and staff of other agencies. The theme of this session was "Family Living". Another group session is planned for January 1969.

At the end of 1968, 18 home visitors were actively working with 36 client families. During the past year, they visited with 57 families. Visits made by the home visitors in the three areas total 784.

Two Edson and one Hinton home visitors are currently branching from an individual to a group approach in working with families. They met with small groups of homemakers. Discussions and projects centre around the interests of the homemakers. It is anticipated that more groups will evolve around home visitors clients. Some training in group work will be offered to the home visitors early in the new year.

Weekly counselling sessions involving the home visitors and the home development specialists were held at all three centres. At Hinton and Peers, group sessions were held while in Edson, group counselling and individual counselling took place on alternate weeks. The total number of counselling sessions was 96 with a total attendance of 500. Numerous co-ordinating meetings were held between home visitors, ARDA staff, other agencies and individuals. Again, a great deal of co-operation was extended by these other agencies and individuals. Much satisfaction and success has been gained through the co-ordination of our efforts with others who are involved with mutual clients.

The two home development specialists also participated in other programs throughout the year. They spoke to seven groups on the Home Visitor Program. Both were responsible for sessions at a self improvement course at Marlboro. Presentations were also given by them to the group of educational trainees in Edson. The home economist also spoke to four groups on subjects of homemaking. She also assisted with judging at two 4-H events. The home development specialists attended several short courses and conferences as part of their own professional advancement.

Marlboro Homemaker Keep Fit Course

8 sessions; 38 registered Total attendance 205, average 26

January 1—September 30, 1968

Group counselling sessions	51
Individual counselling sessions	4
Number of visits made by home visitors	573
Attendance of home visitors	348

October 1—December 31, 1968

Group counselling sessions	23
Individual counselling sessions	6
Number of visits made by home visitors	234
Number attendance	140

Farm and Home Calls

January 1—September 30, 1968	1,874
October 1—December 31, 1968	423

Meetings

Total	819
Attendance	8,351

The graph on page 178 shows office calls and indicates the phases of the program most demanded by people of the region.

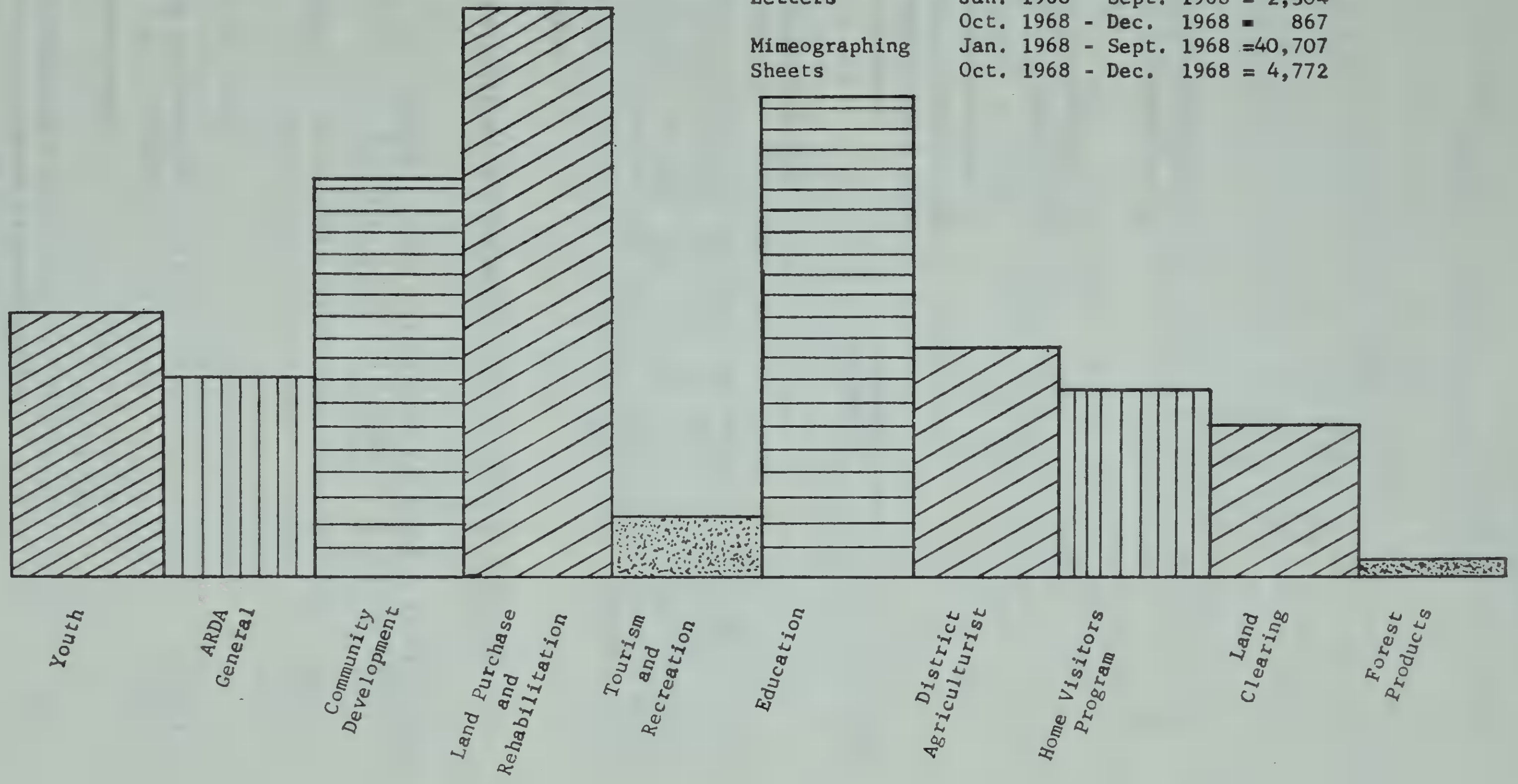
FAIRVIEW, REGIONAL HRDA - ARDA OFFICE

Co-ordination

During the year considerable emphasis was placed on activities designed to encourage greater co-ordination among government agencies serving the region. Meetings of government agencies representatives were held in three 'service centre' areas, High Prairie - Lesser Slave Lake, Peace River and Grande Prairie. Most government agencies have representatives serving each of these service areas.

Service Centre Areas	Number of Meetings	Total Attendance	Number of Agencies
High Prairie-Lesser Slave Lake			
January 1—September 30	7	127	17
October 1—December 31	2	38	16
Peace River			
January 1—September 30	—	—	—
October 1—December 31	1	29	12
Grande Prairie			
January 1—September 30	2	29	13
October 1—December 31	1	16	10

Total Interviews Jan. 1968 - Sept. 1968 = 2,925
Oct. 1968 - Dec. 1968 = 738
Phone Calls Jan. 1968 - Sept. 1968 = 2,578
Oct. 1968 - Dec. 1968 = 546
Letters Jan. 1968 - Sept. 1968 = 2,304
Oct. 1968 - Dec. 1968 = 867
Mimeographing Jan. 1968 - Sept. 1968 =40,707
Sheets Oct. 1968 - Dec. 1968 = 4,772



Education

Community Development and Leadership

The "social influence" technique was used to identify community leaders in the High Prairie - Lesser Slave Lake area. A series of seminars involving the leaders so identified were then conducted to encourage increased awareness of community problems and potentials, and greater understanding of the social action process in community problem solving.

In co-operation with the Leadership Traning Branch, leadership training workshops were conducted at three centres in the region.

These events are summarized below:

Training Event	Total No.	Total Attendance
Community Development Seminars		
January 1—September 30	4	100
October 1—December 31	Nil	
Leadership Workshops		
January 1—September 30	3	60
October 1—December 31	1	14

Meetings with community groups were held to encourage a greater awareness, among community people, of the need for a change and adjustment in response to changing economic and social forces. The thought behind these meetings is that people will be more willing to change if they understand the reasons why change is necessary.

Community Group	Total No. of Meetings	Total Attendance
Chamber of Commerce		
January 1—September 30	1	30
October 1—December 31	3	50
F.U.A. Locals		
January 1—September 30	4	97
October 1—December 31	1	25
Tangent ARDA Group		
January 1—September 30	4	78
October 1—December 31	3	102
Others		
January 1—September 30	13	240
October 1—December 31	2	30
Various Government Agencies		
January 1—September 30	18	
October 1—December 31	3	
Farm Visits		
January 1—September 30	app. 32	
October 1—December 31	Nil	

Agriculture

There was a need for people who choose to remain on farms to acquire up-to-date information on farm production and management. With this need in mind, a training course was arranged for Tangent district farmers. Twenty farm operators participated in the two-week course. An evaluation of the course by the participants indicates that most (18) found the course "very helpful". The course material dealt with soil and crops, livestock production, and farm management.

The course was a joint effort involving the Agricultural and Vocational Department, Department of Agriculture personnel, and Canada Manpower. The latter agency paid the trainees training allowance while they were on course.

Development Projects

Little Buffalo Lake Cattle Grazing

This project is undergoing thorough study because its "fate" will have real implications in regard to numerous situations of a similar nature in the northern part of the province.

Kimiwan Lake Tourist Development

People in the McLennan community saw their only hope for economic survival in the development of the area's potential as a tourist attraction. A project for a recreational complex was proposed. The proposal was not formally submitted but it was brought to the attention of several government agencies.

Paddle Prairie Pasture Development

The physical resource development aspect (land clearing) went forward. However, to date little attempt was made to encourage efficient use of this resource by the people of the Paddle Prairie Colony.

Tangent Community Development

Significant changes occurred in this area during the past two years in terms of community participation and awareness. It would seem that action programs were needed to maintain the willingness to come to grips with economic problems.

Green Valley Park Development

The feasibility study for this project was completed. Apparently the engineering problems are such that the proposal is not economically feasible.

Lesser Slave Lake Area Projects

This area has now been identified as a separate project under the Human Resources Development Authority program so will be reported by the new resource co-ordinator for the area.

Establishment of Farm Adjustment Committees

Preliminary work was done in regard to the establishment of Farm Adjustment Committees throughout the region. Representatives of the government agencies who will be involved in the operation of these committtees have generally agreed that these committees can serve a useful function. It is proposed that Farm Adjustment Committees be phased in the region during the next two years.

Public Information General

Letters written	
January 1—September 30	157
October 1—December 31	65
Circular letters	
January 1—September 30	12
October 1—December 31	9
Office calls	
January 1—September 30	42
October 1—December 31	14
Phone calls	
January 1—September 30	108
October 1—December 31	70
News releases (all media)	
January 1—September 30	6
October 1—December 31	8

SLAVE LAKE, REGIONAL HRDA - ARDA OFFICE

The Slave Lake Project was announced in September by Premier Manning as one of several areas to be set up for special consideration for development programs of the Human Resources Development Authority.

The appointment of Mr. Neil W. Gilliat as Project Co-ordinator was announced effective November 1. However, as of the end of the year no other staff had been appointed. It is, however, the intention to appoint a task force of six people of diversified experience, three of whom will be appointed through ARDA, the others through Community Development, both new branches of HRDA.

There are no ARDA projects in the area, although the Slave Lake Reforestation Project and a Forest Consultant Project were submitted and approved in principle. The first is a plan to re-forest land south of Lesser Slave Lake and at the same time provide training to residents of the area in heavy machinery operation and maintenance, and other forest skills. The latter project is to provide expert advice to four woodland co-operatives in the area to help make more efficient operations of them.

Feasibility studies of various projects for economic development of the area, including fish processing, grazing, and woodland operations were started and will continue into 1969.

In the social improvement field, studies with the Department of Youth are in progress for a "Head Start" program in most of the villages to help pre-school children with language and other problems that hold many of them back when they reach school age.

The area has an overall council comprising representatives from all communities in the project, backed by many well organized village groups. This situation, although extremely healthy for the future, has created much impatience among the people waiting for the formation of the Slave Lake task force.

The local civil service have been organized into a technical group for advice on local matters.

Under the jurisdiction of the new co-ordinator, five problems of the people were presented to this office for investigation. One was resolved at this level, one was submitted to HRDA, and three are still pending.

RESOURCE CONSERVATION AND UTILIZATION BRANCH

Conservation and Utilization Committee

The committee met monthly during 1968 for the purposes of discussion, recommendation and co-ordination of renewable physical resource policy and programs. Membership remained constant, although the scope and activity of the committee has broadened.

Resource Adjustment Research

Research in a variety of areas was undertaken to expand the factual basis for the land assembly and farm adjustment programs. Topics examined to date included a methodology for land adjustment planning, small area data sources and recommendations for improved access to these data on an area basis, a modification of an implementation procedures for the total resource development model in the subject area of multitple land use, research in the field of pollution with special reference to agricultural land use, and special land use problems in the vicinity of major urban concentrations, in the Willmore Wilderness Park area and on the Saddle Lake Indian Reservation. The results of some of these activities were reported in a series of research and position papers.

Land Assembly Program

Table 1 indicates the various purchases made for alternate land use adjustment to encourage effective resource allocation.

TABLE 1

Purpose of Purchase	No. of Parcels	Cost
Farm and Woodlot Adjustment	19	$ 21,705.00
Grazing Reserve Assembly	110	209,627.00
Forestry Assembly	89	63,899.00
Watershed Conservation	54	399,755.00
Community Pasture Assembly	28	143,980.00
Recreation Assembly	27	233,548.00
Wildlife Conservation	2	3,645.00
Conservation Assembly	1	3,810.00
	330	$1,079,969.00

Farm Adjustment and Consolidating Program

Land purchases occurred in Census Division 12, and Census Division 14. Table 2 indicates purchases during 1968, whereas Table 3 describes the nature of the adjustment.

TABLE 2

Purpose of Purchase	No. of Parcels	Cost
Farm and Woodlot Adjustment	39	$175,366.00
Wildlife Conservation	3	4,915.00
Forestry Assembly	10	35,645.00
	52	$215,926.00

TABLE 3

Location	Farms	Acres	Cost
Yellow Area	8	2560	$ 43,693.00
Green Area	9	1590	35,645.00
White Area	12	3252	126,710.00
Brown Area	1	320	9,878.00
	30	7722	$215,926.00

Three additional Farm Adjustment Committees were appointed by the Minister in Census Division 12 and one in I.D. 65. These committees met periodically to make recommendations to government regarding the purchase of lands for farm adjustment and the disposal of all public lands within their jurisdictional areas. Two technicians were appointed to assist the committees in Census Divisions 12 and 14.

Land Improvement and Development Program

Legislation was amended and regulations drafted and approved for the guarantee of interest-free bank loans for specified land clearing and breaking in designated areas of the province. Negotiations with lending institutions were continued with the development of the necessary regulations and agreements.

Approximately 3,100 acres of land were cleared and broken on the Saddle Lake Indian Reserve Development Project. Tenders were called for the clearing of 5,000 additional acres.

Canada Land Inventory Program

The objective was to collect information on the land's physical characteristics from aerial photographs and field observations in accordance with National Classification Systems in the disciplines of agriculture, forestry, recreation and wildlife. Progress in classifying and mapping the 170,000 square miles of Alberta's settled and fringe areas reached an average of about 60 percent. Of the forty N.T.S. map blocks (24 whole and 16 partial) one or more sectors were completed in each block; however, no block was completed by all sectors, prohibiting a complete multi-capability comparison. Sector progress ranged from recent commencement of the sport fish sector to completion of the mapping of present use.

A repository for all capability maps was started and included map sheets at a scale of 1:63,360 for each sector in accordance with sector progress. The federal government printed agricultural capability maps, Edmonton No. 83H and Winagami 83N, at scale 1:250,000.

The federal government agreed in 1963 to finance the inventory at 100 per cent. To date it has paid $615,486.49 and it has approved financing of $763,500.00 for the fiscal years ending in 1972. Provincial financing and co-ordination through the Resource Conservation and Utilization Branch was arranged in 1968. Appropriate provincial agencies administered the funds and the inventory work, and made maps for Federal requirements and assembled maps and data for provincial use.

Project Name and Year Started	
Soil Capability for Agriculture, 1963	—Alberta Soil Survey
Soil Capability for Forest Production, 1964	—Forest Surveys and Planning Branch, Department of Lands and Forests
Land Capability for Ungulate Wildlife Production, 1965	—Fish and Wildlife Division, Department of Lands and Forests

Water Capability for Outdoor Recreational Use, 1965	—Parks Branch, Department of Land and Forests
Mapping Present Land Use, 1964	—Department of Agriculture and Department of Geography, University of Alberta
Land Capability for Waterfowl Production, 1965	—Financed entirely by Canadian Wildlife Service

Investigations to begin a land use planning project were continued. Observations and study of tests in British Columbia, Saskatchewan and Manitoba and federal experience indicated that the maps and inventory data are useful in assessing the problems and possibilities for land areas wherein the relative capabilities for more than one use is known on the basis of the nationally systemized ratings. These preliminary observations were made in preparation for the development of a process, to make use of these kind of data in conjunction with social and economic facts and forecasts, for planning land use in broad aspect.

AGRICULTURAL PRODUCTS MARKETING COUNCIL

Members of the Council are D. H. McCallum (chairman), C. J. McAndrews (vice-chairman), C. H. Ferries (secretary), G. R. Milne (poultry commissioner - replaced R. H. McMillan), K. Williams (producer representative) and L. P. Bromham (industry representative).

The Marketing of Agricultural Products Act was amended to include cattle, sheep and wool as agricultural products that may be subject to regulation. The request for inclusion of these products emanated from the Western Stock Growers' Association.

Plans established under the Act in 1968 were as follows:

(a) the Alberta Egg and Fowl Marketing Plan

This plan for a board comprised of egg producers was established late in the fall and consequently did not actually function. Of 904 producers who registered in order to vote, approximately 62 per cent voted in favor of the plan to establish a board. Chairman of the Board is Mr. P. F. Eldridge with office in Calgary. It is the intention of the board to stabilize the commercial egg industry by issuing marketing quotas and by setting prices to be paid producers for eggs.

(b) the Alberta Hog Producers' Marketing Plan

This plan for a board to be comprised of hog producers, was established in December. Of 9,319 producers who registered in order to vote, approximately 68 per cent voted in favor of the plan to establish a board. Directors of a provisional board will be appointed early in 1969 to act until a board can be elected. The primary function of the board will be to improve the method by which prices for slaughter hogs are established. This would be by means of a system through which all hogs for slaughter would be offered to all potential buyers.

A plan for consideration under the Act was submitted by the Western Stock Growers' Association for the establishment of an Alberta Cattle Commission. Such a commission would collect a levy on all cattle marketed for the purpose of research into various problems being encountered by the beef cattle industry, and for the promotion of beef products.

The Marketing Council continued its program of giving guidance to persons and commodity groups desiring to make use of the Marketing Act. In addition, the role of Council in resolving problems between the boards, growers and processors became evident. Hearings and meetings of the Council were successful in resolving such matters.

MUNICIPAL AGRICULTURAL PROGRAMS BRANCH

This branch assisted in co-ordination and submission of Departmental programs to municipal governments leading up to Agricultural Service Board agreements. During the year inter-divisional meetings were arranged to clarify objectives and responsibilities on the tree program; soil conservation and drainage projects; livestock classes at fairs; and on Agricultural Service Board programs and district agriculturist - agricultural fieldman responsibilities and relationships.

New developments included co-ordination of the warble control program which led to the pilot project in Wetaskiwin County. This branch was also involved in the initiation of the beef cattle enterprise study to be carried out in the Peace River region. Another project was the drafting of a proposed on-the-farm bookkeeping program for the province.

Several meetings with regional agriculturists were held relative to agricultural service boards, agricultural societies and other programs having regional dimensions.

The branch made presentations at the Banff Leadership Course; at two training sessions for new extension staff; and participated on two panels examining new appointees to the district agriculturist staff.

Liaison with municipal governments is an important function of this branch and during the year three meetings were held with executive members of the Alberta Association of Municipal Districts and Counties. Agricultural Committees and Agricultural Service Board meetings addressed, numbered seventeen. Assistance in programming was given to six regional Agricultural Service Board conferences and to the annual Agricultural Service Board and Agricultural Fieldmen Conference held at Olds.

There were no new Agricultural Boards organized during 1968 and the number remains at 59. Some preliminary discussions were held on the possibility of establishing Agricultural Service Boards on Indian reservations.

Liaison with agricultural fieldmen was expressed through four meetings with executive officers of their Alberta association and three regional meetings.

The establishment and use of Agricultural Advisory Committees to municipal governments were further advanced. Activities during the year included 18 meetings or seminars on this subject, some with departmental staff. This resulted in two new committees and a strengthening of some now in operation. This branch was instrumental in initiating training sessions for advisory committee members and funds were made available for this purpose.

Agricultural Societies

The administration of Agricultural Societies was transferred from the Extension and Colleges Division to the Municipal Agricultural Programs Branch of Program Development Division on April 1, 1968. Mr. S. S. Graham continued to act in an advisory capacity.

The following Agricultural Societies held classified fairs during 1968:

"A" Class — Calgary, Edmonton, Lethbridge, Red Deer.

"B" Class — Camrose, Grande Prairie, Lloydminster, Medicine Hat, Olds, Vegreville, Vermilion, Wetaskiwin.

"C" Class — Athabasca, Battle River, Benalto, Darwell, Donnelly-Falher-Girouxville, Lougheed, Mayerthorpe, Peace River, Pincher Creek, Priddis-Millarville, Vauxhall, Westlock, Wildwood, Willingdon.

Other Societies — (some operating unclassified fairs) Alix, Barrhead, Cardston, Central Alberta (Lacombe), Drumheller, East Central Alberta (Coronation), Fairview, Hanna, High River, Lamont, Nanton, Okotoks, Rimbey, Rocky Mountain House, Spirit River, Stettler, St. Paul, Taber, Victoria Trail (Smoky Lake), Willow Creek (Claresholm), Valleyview.

In addition to the classified fairs, other activities organized or sponsored by Agricultural Societies included community fairs, bench shows, horticultural shows, livestock shows and sales, seed fairs, agricultural short course, demonstrations and support of 4-H clubs.

No new Agricultural Societies were organized in 1968 but several communities made enquiries concerning regulations on formation and grants available.

The annual meeting of the Alberta Agricultural Societies Association was held in Edmonton, December 10, 1968 in the Agriculture Building. Mr. Alex Pocholok of Athabasca, President of the Association, conducted the meeting. Speakers included Dr. E. E. Ballantyne, Deputy Minister, Mr. V. Macdonald, Livestock Branch, Canada Department of Agriculture, Mrs. Mona Cox, Associate Head, Alberta Home Economics Branch and J. R. Gylander, Head, Municipal Agricultural Programs Branch.

The association agreed to a reorganization of directorships to conform to the regional boundaries as used by the Alberta Department of Agriculture. This will result in the appointment of seven directors for the province and it is hoped that regional agriculturists will be able to render assistance to these directors in co-ordinating Agricultural Society activities and to make fairs more meaningful as vehicles for agricultural improvement.

The regulations governing loan guarantees to Agricultural Societies were reviewed and while several enquiries for guarantees were dealt with, the Westlock and District Agricultural Society was the only application received during the year.

Alberta Federal-Provincial Agricultural Manpower Committee

The administration of the federal-provincial Agricultural Manpower Committee was transferred from Extension and Colleges Division to Program Development Division on April 1. Mr. S. S. Graham gave valuable assistance in an advisory capacity throughout the year.

The major effort of this committee this year was concerned with the supply of labor for the sugar beet, vegetable and potato industries of southern Alberta. The acreage of sugar beets was up approximately 17 per cent compared to 1967 but no serious difficulties arose in obtaining the number of workers required.

An experienced agricultural manpower supervisor was again employed to supervise the committee's responsibilities in the irrigated and specialized crop areas. His office was located in the Canada Manpower Centre and he worked closely with Mr. James Lynn, Manager of the Lethbridge Manpower Office. One full-time fieldman and four part-time fieldmen were employed to assist in the southern Alberta area. Excellent co-operation was received by the supervisor and fieldmen from Canada Manpower officials and representatives of grower organizations and processors.

Following the pattern of recent years, the larger percentage of the workers recruited, transported and placed by the committee were Indian or Metis. Personal recruiting at the various reservations resulted in a larger supply of workers and more orderly movement to southern Alberta. The forest fire situation caused a temporary slowdown of worker recruitment but this eased sufficiently to proceed on schedule with the first group of workers arriving at Lethbridge on May 27.

The following are the number of workers registered and placed by the committee. This involved assistance in recruitment, transportation, meals and lodging until placed on farms and relocation after finishing contracts:

Province of Origin	Adults	Children	Total
B.C.	12		12
Alberta	425	36	461
Saskatchewan	1,179	121	1,300
Manitoba	8		8
N.W.T.	2		2
Totals 1968	1,626	157	1,783
Totals 1967	1,380	191	1,571

IRRIGATION SECRETARIAT

The objectives of the Irrigation Secretariat are: to effect a sound irrigation policy for the province and irrigation districts and efficiently administer the Province's irrigation program; to act as secretary to the Irrigation Council; to establish and maintain communication between Council and the irrigation districts and others.

Considerable time was spent in becoming familiar with the new Irrigation Act, 1968, which became effective May 2, 1968.

As a result conferences were held with legal advisors on the interpretation of the Act as well as special means of application. Sixteen prescribed forms that are required by the Act were prepared and approved for use by the irrigation districts. A number of other forms and form of by-laws were prepared as a guide and a help to the irrigation districts.

Five regular meetings of the Irrigation Council were attended. The regular business of Council of processing by-laws for the irrigation districts as well as preparing recommendations for the required Orders-in-Council were attended to. A number of special meetings were attended dealing with special problems of the individual irrigation districts.

A special meeting was held with the Alberta Irrigation Projects Association. The association, which represents all irrigation districts of southern Alberta, presented resolutions pertaining to proposed amendments to the Irrigation Act, 1968, as well as resolutions pertaining to cost-sharing arrangement for reconstruction and rehabilitation of the existing districts.

The Irrigation Council was involved in 1968 in the process of negotiating with the federal government a cost-sharing agreement for the rehabilitation of irrigation works in Alberta. The total future expenditures of all irrigation districts are estimated to require about four million dollars per year. This figure includes administration, operation, maintenance and replacement. It is proposed that the eventual breakdown on cost-sharing will be: Canada 35%, Alberta 32%, municipal 22% and irrigation districts 11%. Since policy for the full contribution of the municipal share was not established, some portion of the municipal share may have to be assumed by Canada, Alberta and the irrigation district until an urban assessment may be initiated.

REPORT OF THE VETERINARY SERVICES DIVISION

J. G. O'DONOGHUE, V.S., D.V.M., Director
H. N. VANCE, V.S., D.V.M., M.Sc., Assistant Director, Head Laboratory Services
G. R. WHENHAM, V.S., D.V.M., Assistant Director, Head, Field Services

FIELD SERVICES

J. P. BEST, V.S., D.V.M., Head, Veterinary Inspection
W. P. BRISBANE, V.S., D.V.M., Head, Communicable Diseases
M. W. STONE, B.Sc., M.R.C.V.S., Herd Health Programs
G. W. SUMMERS, V.S., D.V.M., Emergency Planning Officer, E.M.O.
L. W. PAIGE, Livestock Medicine Inspector

LABORATORY SERVICES

EDMONTON

F. E. GRAESSER, B.S.A., V.S., D.V.M., Supervisor and Histopathologist
G. S. WILTON, V.S., D.V.M., Head, Animal Pathology
E. W. GILCHRIST, M.R.C.V.S., Veterinary Parasitologist
D. W. MacDONALD, V.S., D.V.M., M.Sc., Veterinary Pathologist
J. HOWELL, V.S., D.V.M., Head, Poultry Pathology
R. G. CHRISTIAN, D.V.M., Veterinary Pathologist
G. G. KLAVANO, B.Sc., D.V.M., Veterinary Microbiologist
S. A. RAWLUK, B.Sc., Laboratory Scientist
E. BARAGER, R.T., Laboratory Scientist

LETHBRIDGE

W. N. HARRIES, B.V.M.S., M.R.C.V.S., Head, Lethbridge Laboratory
G. A. CHALMERS, D.V.M., Veterinary Pathologist
J D. WOOD, B.Sc., Laboratory Scientist

TOXICOLOGY SERVICES

Mrs. K. I. STRAUSZ, B.S., (Honors in Chemistry) Provincial Analyst

FUR FARM BRANCH

R. W. GILLIES, Supervisor, Fur Farms

GENERAL

The year was characterized by a steady demand for services, improvement or refinement of laboratory methods, and no major changes in policies or administration.

Dr. G. W. Summers, joined the staff, with responsibility for emergency planning and other duties. The in-service training program continued with the visits of Dr. J. McD. Robertson, Epidemiologist, University of Saskatchewan, and Dr. W. Switzer, Professor of Veterinary Research, Iowa State University. Dr. R. G. Christian spent six months at the Western College of Veterinary Medicine, Saskatoon, as a resident in diagnostic pathology.

The Agriculture and Wildlife Laboratory was officially named the Dr. O. S. Longman Laboratory Building, commemorating Dr. O. S. Longman, Deputy Minister of Agriculture 1942 - 1955. Delays in laboratory supply contracts and a carpenters' strike delayed occupancy of the building until early 1969.

The workload associated with pollution and related subjects was significant. This ranged from investigations of complaints of illness in livestock suspected of being caused by industry and sewage disposal systems, pesticide poisonings and residue problems, to an acute episode of an escape of 15 tons of chlorine gas. White Muscle disease of calves, and a possible selenium deficiency, involves soil science and fertilizer use. A higher than normal nitrate accumulation in some feeds resulting from summer droughts, can be included in the same category. The need for multidiscipline cooperation was re-emphasized.

The new building of the Western College of Veterinary Medicine Saskatoon, Saskatchewan, was completed. The full complement of 60 students will be accepted for the 1969 first year class. Enrolment opportunities in each year of study for 20 qualified Albertans was confirmed at the meeting of the College Advisory Committee. The Department continued annual grants of $2500 to the College for each Alberta student.

The Ministerial Committee of Department and Alberta Veterinary Medical Association representatives concluded its study of the problems associated with the maintenance of private large animal veterinary practices in all areas. Conclusions and recommendations had not been released at December 31. Livestock producers and agricultural planners in the Peace River area were particularly concerned, and the lack of adequate veterinary services was considered a serious handicap to the hoped-for expansion of a forage, livestock program for that area. Other provinces are experiencing similar problems.

The incidence of rabies in Saskatchewan increased and spread north of the South Saskatchewan river. In Alberta, 49 domestic animal and wildlife specimens were examined by the Federal A.D.R.I. Laboratory. All were negative for rabies. During late summer and early fall, bovine pulmonary emphysema continued to be one of the important causes of death in cattle. Some individuals suffered a severe loss. Anthrax occurred on one farm near Stettler in November.

The Division continued to cooperate with other Divisions, Departments and Agencies in all matters that related to diseases of animals and human health. The assistance of Extension, Animal Industry and Plant Industry Divisions and the Department of Lands and Forests is gratefully acknowledged. Appreciation is expressed to the Department of Health, Public Health Laboratory, veterinarians, the Feed Industry and municipal officials.

Additional information is provided in the following reports.

FIELD SERVICES

The extension and field activities of the Division include the administration of official legislative programs, such as Brucellosis Control, Veterinary Inspection, Livestock Health and Livestock Medicine Regulations. Investigation of specific disease problems and field study projects are also responsibilities. Additional projects are carried out in cooperation with other agencies and disciplines including the Canada Department of Agriculture, the University of Alberta and other departments and divisions of the Alberta Government.

Summary of activities

Field investigations	
Cattle	86
Swine	35
Sheep	4
Horses	11
Poultry	14
Wildlife	8
Fur Animals	19
Total	177

Meetings	
Brucellosis	14
Domestic Animals	16
Poultry	7
Professional	35
Others	105
Community Pastures	3
Total	180

Inspections	
Livestock Markets	177
Stockyards	302
Livestock Medicines	357
Slaughter	2
Swine R.O.P. Bonus	21
S.H.H.P.	158
Supp. S.H.H.P.	5
Pastures (days)	4
Turkey Health Flock	9
A.I.	1
Total	1,036

Lectures	
University	26
Vocational College	2
Others	27
Total	55
Individual Farm Visits	371

Veterinary Education

Six years, two years of pre-veterinary studies at Universities or Junior Colleges in Alberta, followed by a four year professional course available in Saskatchewan, Ontario or Quebec, are required to complete the course in Veterinary Medicine.

Pre-Veterinary Students In Alberta

	1st year	2nd year
University of Alberta	23	18
University of Calgary	7	13
University of Lethbridge	3	
Red Deer Junior College	3	
Medicine Hat Junior College	0	0
Camrose Junior College (no reply)	—	—
Total	36	31

Albertans Attending Veterinary Colleges

	1st year	2nd year	3rd year	4th year
Saskatchewan	15	11	15	12
Ontario	3	2	6	3
Total	18	13	21	15

Practising Veterinarians

There were 141 veterinarians in private practice at the end of the year, 113 large animal practitioners in 87 practices, including 43 large animal clinics, and 28 small animal practitioners in 17 clinics.

Communicable Diseases

Compulsory vaccination of heifer calves sold through Class "D", "E", and "F" stockyards was terminated May 1, 1968. All municipalities went on a voluntary vaccination program.

The official vaccination age was changed and an "Official Vaccinate" was classed as a heifer vaccinated between 3 and 9 months of age. During the year 102,139 calves were vaccinated with Brucella abortus Strain 19 vaccine. Since 1949, approximately 6 million heifer calves have been vaccinated. Vaccination and organizational work was carried out by 126 veterinarians and 63 agricultural fieldmen.

Seventy-five areas in Alberta were recertified by the Federal Health of Animals Branch for a three year period. Fifteen areas were established as Brucellosis Free Areas in which the rate of infection did not exceed one per cent of the herds and two-tenths of one per cent of the cattle.

Vibriosis

The vaccination trial, commenced in 1966 to ascertain the efficacy and duration of immunity of the new vibrosis bacterin, was continued. Results to date have been most encouraging. Findings from this trial indicate that it is necessary to vaccinate annually in negative herds as a preventative measure; however, in infected herds one vaccination as yearlings will give adequate immunity for at least three years.

Disease Reporting Statistics

To complement information gathered from laboratory submissions, statistics are maintained on morbidity and mortality from cooperating veterinary practices. Monthly returns were processed covering calls to 6,044 premises.

The veterinarians' monthly communicable disease report supplied further detailed information on certain diseases.

Provincial Grazing Reserves

Reported deaths and unusual sickness (24) were investigated on six grazing reserves during the pasture season.

VETERINARY INSPECTION SECTION

Stockyards

Stockyards receiving veterinary inspection numbered 56 Class "D", 2 Class "E", and 3 Class "F". Due to the lack of veterinarians in practice in the Peace River district, it was necessary to waive inspection for the Tuesday sale at Grande Prairie and for all the sales at Valleyview from August to the end of the year.

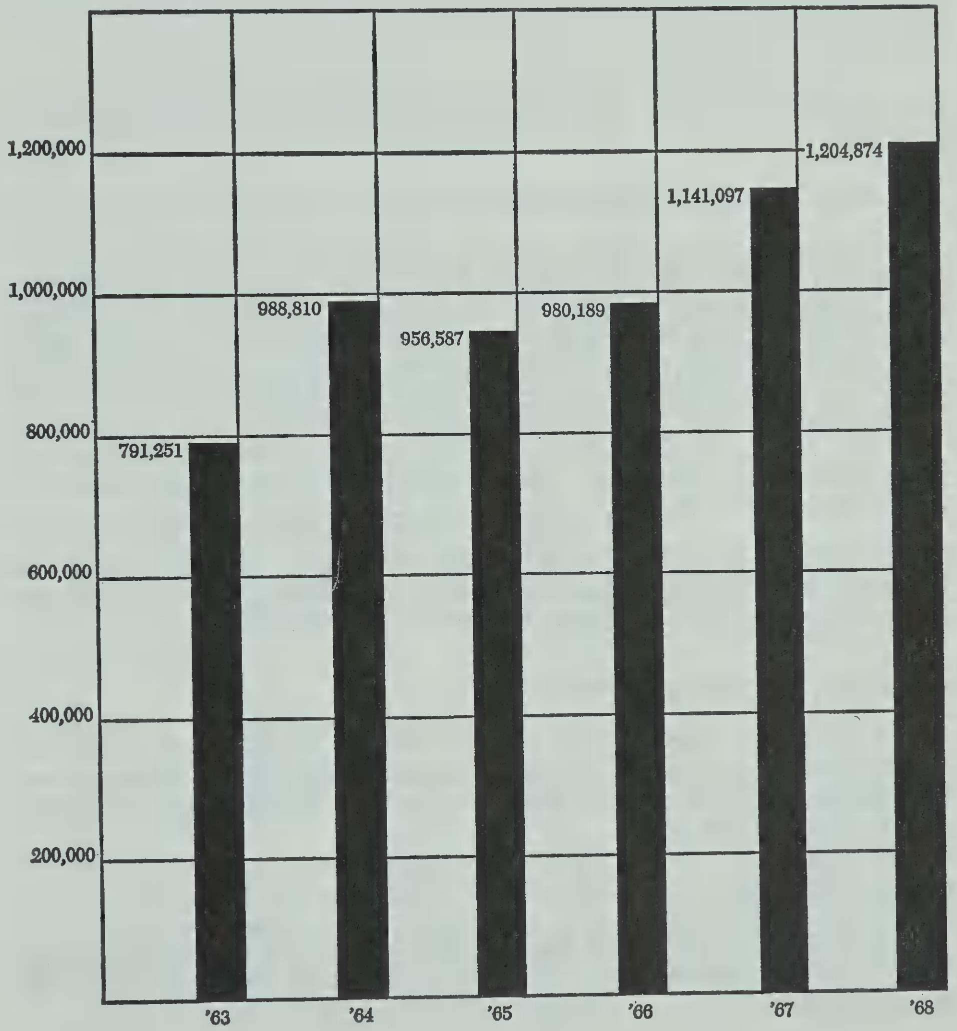
A total of 3,202 sales was held and 1,204,874 animals were inspected, of which 16,307 were rejected. The diseases commonly encountered were cancer-eye, lump jaw, mastitis, enteritis in cattle and rhinitis, mange, arthritis, and pneumonia in swine.

The accompanying graph illustrates the relative numbers of livestock from 1963 to 1968 inclusive.

An amendment to Regulation 57/59 made it possible to reject all swine weighing less than 22 pounds. As a result 2,976 pigs were sent home for this reason.

Supervision was supplied to 31 Class "C" and 198 Class "G" stockyards.

Livestock Inspected at Class "D", "E" and "F" Stockyards



Grazing Pastures

At six Provincial Grazing Reserves, 9,577 cattle were inspected as they entered the pastures. Of these, 22 were rejected.

A sheep pasture was opened and brought under inspection at Kleskun Hills. Five hundred and ten sheep were inspected. None were rejected.

Educational Courses

The eighth Annual Feed Industry Conference was held in Edmonton cooperatively with the Feed Industry, the Department of Extension of the University of Alberta and the Veterinary Services Division. Papers were presented by three veterinarians of the Division.

The Division cooperated with the Poultry Branch of the Animal Industry Division in presenting the Poultry Industry Conference in Calgary. Veterinarians of the Division presented one paper.

Veterinary Science 300, a course for animal science students in the Faculty of Agriculture, University of Alberta, was presented in the fall term to 52 students.

Two lectures were given to the students in the hog production course held at the Vermilion Agriculture and Vocational College.

Livestock Medicine Regulations

Licenses were issued during the year to 418 outlets, an increase of 22 from the previous year. Three hundred and twenty-five inspections were made of licensed outlets and 31 premises of new applicants. Minor violations were corrected on the spot. A number of reports of infractions were investigated and in all cases, a satisfactory conclusion was reached.

The Advisory Committee met in October. Thirty-one new applications were reviewed, 29 of which were recommended for approval by the Minister. Two were not recommended.

Licenses to sell Bronchitis and Newcastle Disease vaccines were issued to 18 pharmacists, 11 hatcheries, and 11 veterinarians complying with the Poultry Vaccine Regulations.

Licensing of Slaughterhouses

Slaughterhouse licenses were issued to 92 businesses already licensed as Frozen Food Locker Plants or Specialized Processing Plants. Seven were issued to businesses operating a slaughterhouse only.

Rabies Control

Specimen containers and history forms are supplied to control depots to ensure that suspected animals are submitted for examination.

Swine Herd Health Program

Swine herd health continued as a subject of concern to the industry with a result that seven new herds enrolled, while two resigned due to farm sales.

Regular quarterly inspections were conducted on all herds and several supplementary inspections were made to investigate disease problems. Practitioners carried out a number of the regular inspections.

Tuberculin testing followed the discovery of lesions in a packing plant. There were no reactors. The breeding stock in a Salmonella herd was rectal swabbed twice in an effort to eliminate carrier animals.

Blood sampling and testing for swine influenza has been adopted as routine in all new herds, and all participating herds will be tested in due course.

Summary of Activities

Total enrolment at January 1, 1968	41
Number of Inspections	182
Necropsies performed at the Laboratory	104
Necropsies performed by practitioners	23
Specimens examined	1,161
Total enrolment at December 31, 1968	46
Total number of breeding stock sold by Certified Herds during 1968	1,015

R.O.P. (Swine) Health Inspections

Pilot project Boar-Sib tests were conducted at the Lacombe Test Station and the Division carried out pretest health inspections on all participating herds. During the tests, four station inspections were made. Market specimens were examined at the laboratory at the completion of the tests. The R.O.P. Committee has requested semi-annual health inspections on all herds participating in R.O.P. testing.

Calgary Quality Milk Control Program

The Head, Herd Programs, was appointed to the Steering Committee of the above, attended regular meetings, and presented a paper at five farm meetings held in the Calgary area.

Emergency Measures Organization

Dr. G. W. Summers was appointed Emergency Planning Officer on May 1.

The Emergency Planning Officer attended a two day orientation course at the Alberta Civil Defence School in May, and a two week National Survival Course at Arnprior in July. Four other department personnel attended courses at Arnprior.

The Resources Book was updated in July and 135 copies distributed.

Two departmental personnel took part in Exercise Shakedown IV in Grande Prairie on March 8, and five took part in Shakedown V in Olds on November 8.

Meetings were held with Canada Department of Agriculture Regional Officer and Training Officer, and with the Department of Public Health. Twenty-seven district agriculturists were visited.

The Department took part in Project Pluto.

LABORATORY SERVICES

The primary responsibility of this branch was to provide a diagnostic service to the livestock industry. The laboratories at Edmonton and Lethbridge provided equipment and specially trained personnel not available in private clinics or practices. This enabled specialized diagnostic techniques most essential as a second line of defence against livestock diseases.

Improvements in techniques, staffing and equipment were made to fully utilize the research information available to us. To keep abreast of the medical sciences and new diagnostic methods, a regular program of seminars and case conferences was carried on for the professional staff. A library of 20 periodicals in veterinary medicine and allied fields also aided in meeting this responsibility.

The laboratory services attempted to have its staff members spend a portion of their time doing field investigations with the field services, with other branches of government, and with veterinary practitioners. This is important as a further service to livestock owners and veterinary practitioners, and in maintaining contact with changes in the industry. Other responsibilities undertaken included some extension work in the form of meetings, radio tapes, field days, and press releases.

The Assistant Director, Laboratory Services, was chairman of the planning committee for the Dr. O. S. Longman Laboratory Building. A great deal of time was spent coordinating planning for the building, and on detailed planning for the veterinary facilities. The building was delayed by the carpenters' strike and other factors, but was accepted from the general contractor in November. The soil and feed testing laboratory was the only occupant of the building at year end. Full occupancy is expected by April 1969.

The report of the toxicology services (Provincial Analyst) is included in this report for the first time.

SPECIMENS EXAMINED

Edmonton Laboratory

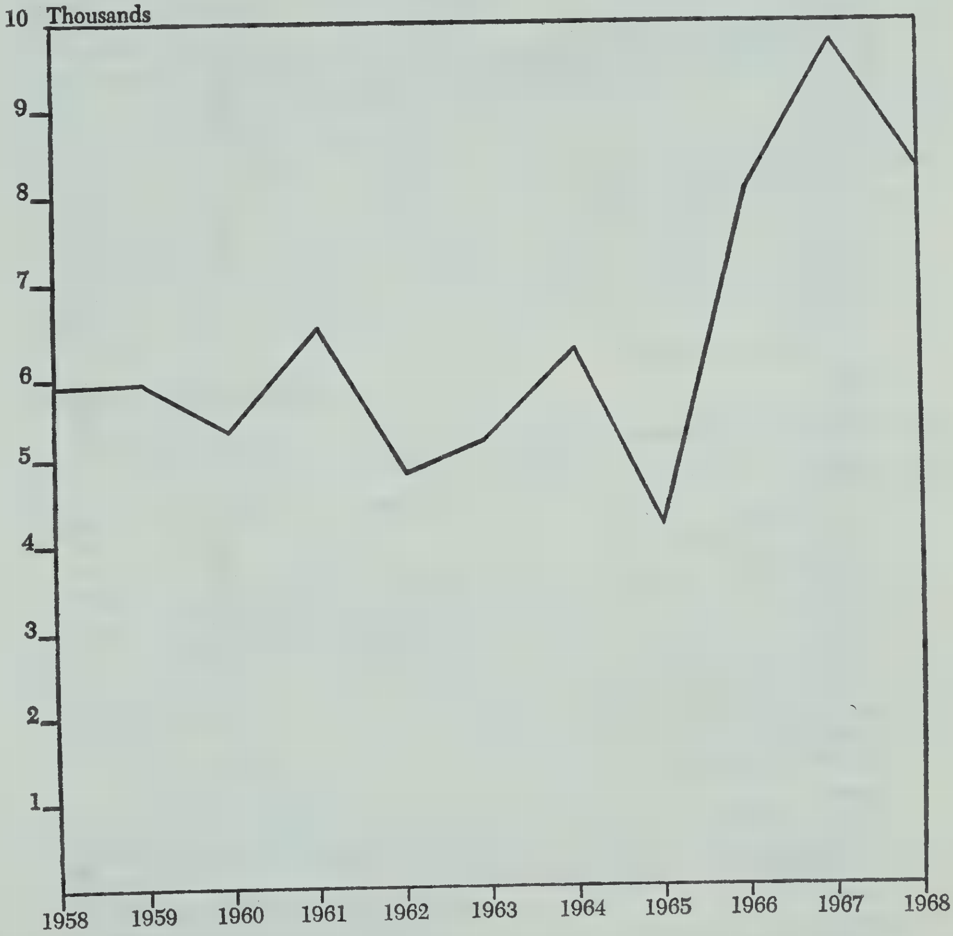
A total of 32,423 specimens representing 6,444 consignments were examined in 1968. The animal section handled 10,241 specimens from 3,642 consignments; the poultry section 7,021 specimens from 2,181 consignments, and special microbiology 4,673 specimens from 621 consignments.

Lethbridge Laboratory

In its third full year of operation the Lethbridge regional diagnostic laboratory examined 3,947 specimens from 1,588 consignments.

The following graph indicates the upward trend in numbers of consignments examined by the veterinary laboratories during the last ten years. The reduction in total consignments in 1968 may be explained by several factors. More careful selection of specimens was encouraged to ensure that the efforts expended were not wasted. As a result, poor specimens which may have been examined in previous years were discarded, allowing more time for those cases which warranted detailed examination. A slight modification in bookkeeping also resulted in a lower total which was more apparent than real. The steady improvement and widening of diagnostic methods requires that, on the average, a greater amount of time is spent on each specimen. The actual workload is therefore not reduced in proportion to the numbers of consignments.

Total Consignments to
Veterinary Laboratories 1958 – '68



Following is a list of domestic species and numbers of specimens of each examined. While these amounted for the bulk of the workload, a wide variety of wildlife species were also examined. More than half of the Edmonton total is accounted for by blood and milk samples.

	Edmonton	Lethbridge
Cattle	2,923	871
Swine	4,344	726
Sheep	160	79
Horse	151	116
Dog	716	132
Cat	216	50
Fur	278	123

		Edmonton	Lethbridge
Wildlife		178	82
Chickens		4,551	935
Turkeys		1,909	198
Milk		3,766	428
Bloods	avian	9,145	
	animal	1,717	107
Others	avian	665	83
	animal	1,704	37
Total		32,423	3,947

Prominent Diseases

The following chart lists the more important diseases in various species based on laboratory records.

Cattle	Edmonton	Lethbridge
Acidosis (rumen overload)	12	5
Atypical Interstitial Pneumonia	27	12
Blackleg	22	4
Bloat	29	
Coccidiosis	23	9
Colibacillosis	53	26
Inf. Bov. Rhinotracheitis	15	5
Johne's Disease	5	1
Malignant Edema	30	1
Other Clostridium Infections	17	19
Parasitic Bronchitis	3	1
Pneumonia	118	25
Poisoning	49	9
Polioencephalomalacia	13	12
Cattle	Edmonton	Lethbridge
Virus Diarrhea	17	12
Vitamin A Deficiency	22	
Swine		
Anemia	9	1
Colibacillosis	119	58
Edema Disease	24	4
Encephalitis	46	4
Enteritis	52	12
Erysipelas	76	9
Gastro-Enteritis	21	9
Infectious Serositis	21	9
Mulberry Heart Disease	27	4
Necrotic Enteritis	26	
Pneumonia	156	37
Vibrionic Dysentery	49	17
Sheep		
Enterotoxemia		1
Listeriosis	5	
Malnutrition		4
Pneumonia	26	6
Poultry		
Air Sac Infection	59	16
Ascitis and Oedema	39	3
Avian Encephalomyelitis	16	
Capillaria Worms	22	
Coccidiosis	77	7
Coliform Septicemia	112	13
Deficiencies	113	15
Fowl Cholera	12	
Leukosis: Lymphoid	208	9
Marek's Disease	424	57
Salmonellosis	16	2

Diarrheas and pneumonias accounted for most losses in domestic animals. Better feeding and management could prevent many of these cases.

In cattle, shipping fever was again a cause of heavy losses through deaths and reduced weight gains. Losses due to calf scours were not as heavy as they have been in some recent years. Virus diarrhea and poliencephalomalacia continued to be troublesome problems because of lack of effective control measures. There were several serious outbreaks of infectious bovine rhinotracheitis.

Swine losses due to poor nutrition and colibacillosis were common. Some of the less common diseases such as mulberry heart disease, vibrionic dysentry, and viral encephalitis were troublesome, again due to a lack of sufficient knowledge of these diseases to bring them under control. Anthrax was found on one farm. A band of horses was affected with loco weed poisoning.

Chicken losses due to leukosis were again extremely common. Marek's disease and lymphatic leukosis were the most prevalent forms. Chronic respiratory disease was one of the more serious conditions affecting chicken broiler flocks. The increase in coccidiosis seen in the previous five years continued. However, most cases are now seen in pullets. Diseases due to faulty nutrition and management are still common and birds on commercial rations are not exempt.

There was a distinct increase in Salmonella infections and avian encephalomyelitis. In turkeys, air saculitis was again prevalent.

Special Investigations

During the course of routine specimen examinations and farm visiting, certain disease problems frequently arise which require more detailed investigation. The following were undertaken:

Turkey health program.
Pesticide residues in eggs from hens exposed to heptachlor.
Study of clinical signs, pathology, and pesticide residues in organs of geese exposed to heptachlor.
Investigation into unusual losses in broiler flocks.
Histopathological studies on tissues from birds being fed on rape seed meal.
Survey of normal fetal weights and preparation of histological sections for reference purposes.
Investigation of techniques for Salmonella isolation.
Production of vibriofetus conjugate for examination of fetal stomach contents.
White muscle disease field study.
Vibriosis vaccination field trial.
Effects of chlorine gas on farm livestock.
Study of petroleum and natural gas industry effects in animals.
Food poisoning associated with contaminated meats.
Swine influenza serological study.
Aleutian disease project.
Bovine lead encephalopathy.
Suspected loco weed poisoning in horses.
Anaphylaxis in sheep.

Microbiology Section

(a) Bacteriology — Most necropsy material submitted to pathologists for diagnosis is examined for pathogenic bacteria. The bacteriology section processed 3,392 specimens from the Animal Diseases Section with an average of 4.7 tissues per submission, and 5,036 specimens with an average of 3.6 tissues per submission from the Poultry Section. Subculturing and broth inoculations to arrive at final indentification of bacteria required 43,814 media plates, and 8,492 tubes of special broth and sugars. In addition, 688 laboratory animals were used to establish pathogenicity of isolated bacteria. One hundred and thirty-seven serum samples and tissue specimens were shipped to other laboratories for additional special examinations.

The work is summarized in the following list:

Bacteriological examinations —	Poultry	5,036
	Animal	3,392
Blood counts		50
Skin scrapings		84
Urinalysis		64
Cuboni pregnancy tests		17
Milk samples		3,766
Fluff samples		252
Intestinal contents		84
Mycotic examinations		67

(b) Serology — A total of 12,139 tests were conducted on serum samples from 7 species.

(c) Virology — A total of 1,125 samples from 12 species were examined using fertile eggs and other special media for virus and mycoplasma organisms.

(d) Biologicals — There were 67 specimens received and 23,084 liters of vaccine and bacterins were produced.

(e) Fetal examinations — Whole 202; portions 68; total 270 aborted feti were examined to determine the cause of reproductive failures.

Toxicology Laboratory

The laboratory performs chemical analyses for the Provincial Veterinary Services, as well as for various health and government agencies of the province, including police forces, and to a smaller extent for individuals and industries.

The services include:

1. Human and veterinary toxicological analyses.
2. Chemical analyses for the Department of Health.
3. Agricultural chemical analyses.
4. Forensic chemical analyses.
5. Quality control analyses (Alberta Liquor Control Board).
6. Industrial chemical analyses.

The laboratory processed a total of 15,500 specimens in 1968.

One thousand four hundred and forty-one samples of human body fluids were analyzed for hospitals, coroners and police forces (from live patients and post mortem cases). Also analyzed were 767 animal tissues and body fluids.

The presence of toxic substances was investigated in 106 feed samples, and 118 feed and grain samples were analyzed for protein, fat, fiber, and a number of them for calcium and phosphorus content as well.

Water analyses were performed on 8,671 samples to determine suitability for human and animal consumption, irrigation and industrial purposes for health units, veterinary services, and individuals. Of 500 of these, in addition to the determination of major constituents, fluoride and iron, detailed analyses were done for trace components.

Seven hundred specimens and exhibits were tested for R.C.M.P. and local police forces. These were of a large variety and involved complex chemical and physico-chemical examinations. The head of the laboratory appeared at court hearings on numerous occasions.

In the near future the laboratory will be provided modern quarters in the new Dr. O. S. Longman Laboratory Building, where its facilities will be considerably expanded.

Histopathology Section

The services provided by this section of the laboratory continued to be used extensively by the staff pathologists and practising veterinarians. A 15 per cent increase in the workload was recorded over that of 1967. Histopathological examination of sections prepared from diseased tissues is regarded as a valuable diagnostic function of our laboratory procedures, and it was the responsibility of this section to process all submitted portions, prepare tissue section, carry out microscopical examinations and report on the findings.

During the year, 11,890 such examinations were performed as outlined in the following chart:

Sections Prepared and Examined:

Domestic animal	6,918
Poultry	4,157
Fur-bearing and miscellaneous	815
	11,890

In addition to the histopathological work, this section produced photographic slides, prints, and transparencies for use within the Division, as well as preserving and mounting gross specimens for display and educational purposes.

Parasitology Section

The numbers of submissions and specimens show a moderate growth for the year. More people are now submitting composite fecal samples than previously, so there has in reality been a marked increase in the numbers of animals surveyed.

There has been a steady flow of material from large game animals, principally moose during the hunting season.

Two cases of Heartworm were uncovered during the year, one in a Harbour Seal and the other in a dog. Both animals had been imported from areas where the parasites are endemic.

Coccidiosis in poultry continues to cause considerable problems. There was an overall drop in cases of acute coccidiosis diagnosed and an increase in subclinical cases. Some new coccidiostats appear to be very promising and should give us very good control over the next few years.

Correspondence and Communications

Correspondence is necessary to inform veterinarians, livestock owners or their agents concerning diagnosis and recommendations. Presentations to various groups and to professional organizations are also carried out. Such communications included: (1967 figures in brackets)

Letters	18,000	(21,854)
News Releases	25	(24)
Radio and TV Interviews	20	(24)
Transparencies and Slides	320	(150)
Photographic Prints	15	(30)
Scientific Papers*	5	(5)
Presentations at Meetings**	6	(4)

*(1) "Attempted experimental induction of amyloidosis in chickens"
D. W. MacDonald and H. C. Carlson. Poultry Science (In press).

(2) "Coliform bacteria in chicken brooder dust and their possible relationship to colisepticemia"
H. C. Carlson and G. R. Whenham. Avian Diseases Vol. XII, No. 2, 1968.

(3) "Colitis X — a case report"
W. N. Harries. Can. Journal of Comparative Medicine (In press).

(4) "Dipetalonema spirocauda infestation and pseudomoniasis in a harbour seal (Phoca vitulina)"
D. W. MacDonald and E. W. Gilchrist.

(5) "Residues in the tissues of geese which had consumed treated grain"
O. J. Jonasson, V. W. Kadis and J. Howell. Pesticide Research Report, 1968.

**(1) "Alberta disease report"
J. Howell, Poultry Industry Conference, November 1968, Calgary.

(2) "Disease control practices for swine"
M. W. Stone. Feed Industry Conference, November 1968, Edmonton.

(3) "Health status of the mink industry in Alberta"
G. S. Wilton. Annual Meeting of the Alberta Mink Breeders Association, April, 1968, Edmonton.

(4) "Lesions of bloat"
R. G. Christian. Annual Convention of the Saskatchewan Veterinary Medical Association, August, 1968, Regina.

(5) "The problem of contaminants in feed"
J. G. O'Donoghue. Feed Industry Conference, Nov. 1968, Edmonton.

(6) "Salmonellosis"
W. N. Harries. Feed Industry Conference, Nov. 1968, Edmonton.

Several thousand bulletins on veterinary subjects were distributed. Various informal presentations were also made at many farm group meetings.

FUR FARMS BRANCH

General

The second consecutive year of low mink pelt prices resulted in over 65 mink farmers in Alberta ceasing operations. A similar trend is reported in other provinces. Those remaining seem to have made temporary adjustments to operate within a national pelt average of about $13. The fact that Albertans produce a high volume of standards, sapphires, violets and pearls, which the market has paid slightly more for, has eased the local situation.

Supplies of fish from northern lakes has been good and this has assisted northern Alberta mink farmers greatly.

The only bright spot in the fur market during the year was that pelts sold at consistent prices and little carry-over is expected. Alberta mink farmers shipped a total of 201,444 pelts valued at $2,765,672. This indicates that fewer old females have been carried over.

No communicable disease was reported during the year. The miss ratio in old females was more than usual. This is a problem that has been growing and requires research. The program of collecting mink tissues for laboratory tests indicates a limited incidence of Aleutian disease in the province. This program should be extended to cover summer losses if the cooperation of mink farmers can be obtained.

Associations and Events

A successful Live Mink Show was staged at Lac La Biche on November 7 and 8 under the co-sponsorship of the Lac La Biche Mink Breeders and the Chamber of Commerce. Educational meetings were held at a number of locations during the year with experts in the fur farming business utilized to cover timely topics.

The supervisor was invited to the annual mink field day at Oregon State University at Corvallis on February 10, and presented a paper on farm management and quality control. In a reciprocal agreement, Dr. James Oldfield, Head of Animal Science Division of O.S.U., addressed the annual meeting of Alberta Mink Breeders in Edmonton in April. He spoke on research at the mink experimental station under his direction at Oregon State.

The supervisor attended the annual meeting of Canada Mink Breeders in North Vancouver in September. A number of chinchilla breeders' association meetings, shows and field days were attended. Rabbit breeders are organizing in several districts and invitations to attend some of their meetings were accepted.

Office and Field Program

Five educational bulletins were presented to the breeders during the year. A number of articles published were used by Fur Trade magazines in Canada and the United States, and as far away as Denmark.

Chinchilla

During the year chinchilla promoters have been active in this and other provinces, with the result that this branch prepared, assembled, and presented additional material on this fur bearer. Many enquiries were answered on the theme, "Investigate Before You Invest". Quality chinchilla pelts are selling, but average and low qualities are meeting with buyer resistance.

Rabbits for Meat and Fur

Interest remains keen and much material on this fur bearer has been dispersed. The Calgary Rabbit Processors Plant has shown an increase in volume, to the extent that further outlets may have to be found and promoted for this type of meat. The young, immature rabbit required by the market for meat has shown little if any value as a pelt. The economics and stability of this industry is difficult to assess.

Current

The December market for standards and pastels opened about 15 to 20 per cent stronger than the previous year, but the glamor or lighter shades were down about an equal amount, so pelt average will not improve much from that of a year ago. Early clearances were encouraging, and the fact that nearly 40 per cent of the Alberta production is standards will help. Those producing quality will operate with a profit, but those with commercial grades continue in jeopardy.

Statistics

Kind of Animal	Total No.	Average Price	Total Value
Declared			
Mink Standard	96,429	$15.00	$1,446,435
Mink Mutation	175,315	13.00	2,279,095
Chinchilla	15,460	12.00	185,520
Fox	75	15.00	1,125
Nutria	2	5.00	10
Miscellaneous	8	5.00	40
Total Declared	287,289		$3,912,225
Pelted			
Mink Standard	73,450	$15.00	$1,101,750
Mink Mutation	127,994	13.00	1,663,922
Chinchilla	2,477	12.00	29,724
Fox	4	15.00	60
Nutria			
Miscellaneous	2	5.00	10
Total Pelted	203,927		$2,795,466

Kind of Animal	Total No.	Average Price	Total Value
Live Exports			
Mink Standard	1	$50.00	$ 50
Mink Mutation	27	50.00	1,350
Chinchilla	154	40.00	6,160
Miscellaneous			
Live Exports	182		$ 7,560
Total Pelted	203,927		$2,795,466
Total Live	182		7,560
Total Exported	204,109		$2,803,026

Retained on Ranches	1967-68	1966-67	1965-66
Mink Standards	22,978	28,024	26,519
Mink Mutation	47,294	46,769	47,974
Chinchilla	12,829	10,066	8,786
Fox	71	42	
Nutria	2	195	73
Miscellaneous	6	1	
Total Retained	83,180	85,097	83,352

Fur Farm Licenses Issued	1967-68	1966-67	1965-66
Mink	184	224	249
Chinchilla	245	206	181
Miscellaneous	2	4	5
Total Licenses Issued	431	434	435

Mink Pelt Production

Year	Total Pelts	Value
1967-68	201,444	$2,765,672
1966-67	190,691	2,686,591
1965-66	191,471	3,721,385
1964-65	186,181	3,009,006
1963-64	181,698	3,240,234

REPORT OF THE WATER RESOURCES DIVISION

R. E. BAILEY, B.Sc., P.Eng., Director
W. SOLODZUK, B.Sc., P.Eng., Chief Engineer

Headquarters

BRANCH HEADS	BRANCH
I. Anderson, B.Sc., P.Eng.	Development Planning and Engineering Materials
B. Boyson, B.Sc., P.Eng.	External Administration
E. T. Dean, B.Sc., Associate Chief Engineer	Design and Construction
R. K. Deeprose, M.Sc., P.Eng.	Hydrology
D. G. Harrington, B.Sc., P.Ag.	Land Development
F. G. Primus	Internal Administration
J. L. Reid, B.Sc., P.Eng.	Hydro-electric Development
L. D. M. Sadler, M.Sc., P.Ag.	Soils, Geology and Groundwater
G. L. Steed, M.Sc., P.Eng.	Agrohydrology

REGIONAL

1. Lethbridge

N. S. Thompson, M.Ag., P.Eng.	Regional Director and Land Manager

SUPERVISORS	BRANCH
B. Beasley	Internal Administration
R. L. Francis, B.Sc., P.Eng.	Design and Construction
D. Graveland, M.Sc., P.Ag.	Lab Services
J. McCracken, M.Sc., P.Ag.	Soils, Geology and Groundwater
A. Pungor, B.Sc., P.Ag.	Land Development

2. Calgary

W. Solodzuk, B.Sc., P.Eng.	Acting Regional Director

3. Edmonton

A. R. Strome, B.Sc., P.Eng.	Acting Regional Director

4. Peace River

E. T. Dean, B.Sc.	Acting Regional Director

OFFICE OF THE DIRECTOR

Prairie Provinces Water Board

Negotiations toward the conclusion of an apportionment agreement for the prairie provinces continued. With the 1967 acceptance in principle of an agreement between Alberta and Saskatchewan, Saskatchewan and Manitoba began discussions for the drafting of a similar agreement. This has now been concluded and accepted in principle by the governments of the respective provinces. A four-party agreement has also been drafted providing for ratification by the Government of Canada of the agreements between the three prairie provinces. All agreements are scheduled to be presented before the Prairie Provinces Water Board early in 1969 for ratification and recommendation to the respective governments.

Under the policy of rotating chairmanship, the Hydro-meteorological Network Committee of the board was chaired by Mr. R. Deeprose, Head of the Hydrology Branch, Alberta Division of Water Resources. The committee presented its report to the board with the recommendations that the Inland Waters Branch of the Federal Department of Energy, Mines and Resources should undertake planning of hydro-metric networks, and further that the Meteorological Branch should work in close co-ordination with the Inland Waters Branch in the development of a meteorological network.

The Board instructed its chairman to arrange for a meeting with Mr. Caldwell, Chief, Water Survey of Canada, and Mr. Richards of the Federal Meteorological Branch, to discuss federal-provincial co-ordination and participation in the development of hydro-meteorological networks. Such a meeting was held in December 1968, at which the foundation was layed for the establishment of federal-provincial co-operation in carrying out future plans in this regard.

Saskatchewan-Nelson Basin Study

For background pertaining to the Saskatchewan - Nelson Basin Study, refer to previous annual reports beginning with 1963.

The 1967 annual report outlined the formation of the study board and the objectives of the study.

The first meeting of the study board took place in October 1967 at which initial action was taken to establish the administrative and technical organization necessary to undertake the task of the study itself.

Mr. F. Durrant was selected from among some thirty-six applicants for the position of Study Director. He commenced his duties in April, 1968, and with the board, immediately proceeded to engage a staff of highly qualified professional personnel to supervise and conduct the various aspects of the study.

The following were named as alternates to the appointed members of the board.

Canada — R. H. Clark, Chief Engineering Division, Inland Water Branch, Dept. of Energy, Mines and Resources.
J. G. Watson, Chief Engineer, Water Resources Division, Agriculture.

Alberta — W. Solodzuk, Chief Engineer, Water Resources Division, Department of Agriculture.

Saskatchewan — J. M. Crook, Chief Engineer, Saskatchewan Water Resources Commission.

Manitoba — N. Mudry, Chief of Planning, Water Control and Conservation Branch, Dept. of Highways.

Mr. N. H. James, Engineering Division, Inland Water Branch, Department of Energy, Mines and Resources was named as secretary to the board.

A technical working group was established consisting of the above named alternates to assist the study director with the development of plans for the study, and the preparation of a schedule of activities.

Each province undertook to carry out the field investigations located within its boundaries utilizing the facilities of the respective provincial water resources organizations. The P.F.R.A. acted in the capacity of a consultant on geological and foundation testing of possible dam sites, and was also assigned the task of carrying out a preliminary office study on various other possible water conservation and diversion projects throughout the study area.

Considerable attention was given to the utilization of computers and the development of a computer program that would assist in the analysis of data and the cataloging of study results. In this respect, the study director organized a symposium for the training of staff and concluded arrangements with the Department of Energy, Mines and Resources for a study board staff member to undergo a training period with the federal government computer program for the Great Lakes.

It was not possible for the board and the Minister's Committee to meet during 1968 since the chairman of the Minister's Committee, the Honorable H. E. Strom, became the Premier of the Province of Alberta. Further attempts are being made to hold such meetings in 1969.

Mr. A. T. Davidson was obliged to temporarily relinquish his duties as chairman of the board because of other committments and Mr. J. W. McNeill, Director, Policy and Planning Branch, Department of Energy, Mines and Resources was appointed as acting chairman during his absence.

Canadian Council of Resource Ministers

The highlight in the activities of the C.C.R.M. during 1968 was the successful national water seminar held in Victoria, British Columbia during the early part of December. The seminar brought together the cabinet ministers from across Canada responsible for water resources administration, and their deputy's and senior staff, consisting of some sixty people in all. Under the guidance of the seminar program committee, assisted by the secretariat of the Council, various subcommittees were established to arrange for the preparation of nontechnical papers on selected topics relating to current water resources problems and philosophies of mutual interest across the nation. It was the first time that such a gathering has taken place for this purpose. The general consensus of opinion held that the seminar was most successful. It was viewed as a forerunner for similar events in the future which would afford an opportunity for a free exchange of views and stimulate discussion on the most desirable and wisest approach to the development and effective utilization of Canada's water resources.

During the year, the Council Ministers, the co-ordinators, and the secretariat devoted considerable attention to the many and various aspects of resources in Canada, and initiated plans to sponsor a future forestry conference, and a recreation conference. The secretariat prepared and released publications and periodicals, some of which pertain to studies carried out by the staff of the secretariat and all of which are making a major contribution to the reservoir of knowledge and information on the renewable resources of Canada.

Irrigation Council

During the 1968 session of the provincial legislature, a new Act was passed, called the Irrigation Act, 1969, which consolidated and replaced the numerous previous Acts pertaining to irrigation. For a list of the specific Act replaced, and therefore repealed, refer to section 196 of the Irrigation Act 1968.

This new Act provided for the establishment of irrigation projects on a consistent basis in that all projects became districts, with a board of directors. The crown corporation status was eliminated, as was the official trustee provisions of the former Act.

The new Act provided for the restructuring of the Irrigation Council which now consists of five members appointed by the Lieutenant Governor in Council. The membership of the new council initially consisted of Hon. H. E. Strom, Minister of Agriculture as chairman; C. J. McAndrews, Director of the Program Development Division, as vice-chairman; Dr. G. Purnell, Director of Economics Division; R. E. Bailey, Director of Water Resources Division; and N. Thomson, Regional Director, Water Resources Division.

B. Boyson, Head of the External Administration Branch of the Water Resources Division, was appointed as acting secretary to the council.

One of the first activities of the council was to establish a secretariat, and J. H. Graham, formerly manager of the St. Mary's Milk River Development, was appointed as full time manager of the secretariat, and took over the duties of secretary to the council.

In July the Hon. H. A. Ruste became Minister of Agriculture, and assumed the chairmanship of the council shortly thereafter. Dr. Purnell resigned from the provincial government to accept a position with the federal government, and the Hon. H. E. Strom continued as a member of the council, replacing the position held by Dr. Purnell.

The new irrigation Act makes provision for irrigation districts to enter into agreements with the provincial and federal governments for the purpose of cost-sharing on irrigation rehabilitation programs. This accommodates the action required to reconstruct physical works on irrigation districts where required, to carry out development of drainage and seepage control, and to extend existing district distribution systems where desirable as proposed and recommended in the report of the irrigation policy committee submitted to the government in 1967.

In accordance with these recommendations, further work was done towards establishing an irrigation rehabilitation program and negotiations were carried out with the federal government, represented by the P.F.R.A., towards the development of a joint cost-sharing program. Final agreement has not yet been reached; however, plans are being formulated for the Water Resources Division to carry out the necessary work prerequisite to embarking on a full scale rehabilitation program. In addition, provision is being made for a start in 1969 of those aspects of the program which will be shared jointly between the province, the municipalities, and the irrigation districts.

ALBERTA WATER CONTROL ASSISTANCE PROGRAM

The services offered under this program evolved from the Resource Transfer Agreement of 1931. At present it encompasses the 50-50 cost-sharing program started in 1954, and the Alberta Water Control Assistance Program (A.R.D.A.), started in 1968.

In general terms, the program is used to enhance the beneficial and multipurpose use of water through water control projects. This is done by assisting local authorities in the investigation, design and construction of flood control, erosion control, irrigation and water development projects. The program provides the engineering, agricultural, technical, and in most cases, financial assistance to carry out the objectives of this program.

Figure 8 outlines the various agencies and departments contributing to the provincial program with the exception of the Hydro-electric Development Branch and the Interdepartmental Co-ordinating Committee on Watershed Development (I.C.C. on W.S.D.).

Construction During 1968

Construction was carried out on 43 projects throughout the province at a combined cost of approximately $1,250,000. Grants given to various local authorities amounts to nearly 75 per cent of this total. Table 1 summarizes these projects.

Provincial Projects

Two contracts were called on the West Prairie River Project on channel improvements and relocation to be completed by the end of 1968. This project is located in I.D. 125 and completion of the two latter contracts will bring the West Prairie River Project to 75 per cent of completion. The Bow River improvement in the City of Calgary is a continuing program.

Surveys, plans and estimates were made for Tyrrell Lake stabilization, Clear Lake stabilization, Strawberry Lake Drain, Rush Lake Drain, Cluny Drain, Turin Fish and Game Reservoir, Claresholm Town Drain, Barons Peacock Drain, Red Deer Lake Drain and for two fishery reservoirs on the A.R. & I. canal right-of-way.

About 43 miles of drainage ditches were designed for these projects.

Outpost Lake, Tyrrell Lake and Clear Lake were sounded and bed contours plotted.

The ground control survey work was completed on Lee Creek for aerial mapping to be used in the location of possible reservoir sites for Cardston's water supply.

Warner South Drain, ten miles long, was built in Warner County to handle runoff from 22 square miles. It was built to prevent flood damage in the County and Village of Warner and to minimize erosion damage.

Strawberry Lake Drain, one and a half miles long, was built in Cardston Municipality to reclaim 400 acres of flooded land.

ALBERTA WATER CONTROL PROJECTS

TABLE 1

Project	Location	Percentage Completed 1968
Valhalla Lake Drainage	C 1	100
Tona Flood Control	C 3	100
Warner South Drain	C 5	95
Kropeilnicki Flood Control	C 9	100
McVettie Flood Control	C 9	100
Eyot Lake Flood Control	C 10 C 25	100
Mound Red Park Spillway	C 10	100
Fluet Flood Control	C 11	100
Olthius Flood Control	C 11	100
East Tiger Lily Flood Control	C 11	100
Neerlandia Flood Control	C 11	100
Meridian Drainage and Flood Irrigation	C 14	100
Young Flood Control	C 22	100
George Brown Flood Control	C 25	100
Goose Lake Flood Control	C 28	100
Woytkiw Flood Control	C 30	100
Strawberry Lake Drain	MD 6	90
Beiseker Flood Control	MD 44	100
Ribstone Creek Flood Control (Stage 1)	MD 61	50
Golden Spike Drainage	MD 84	100
East Ardmore Flood Control	MD 87	100
Jackfish Creek Flood Control	MD 87	100
Toane Flood Control	MD 90	100
Fedorvich Flood Control	MD 92	100
Wabash Creek Flood Control	MD 92	100
Clesson Flood Control	MD 92	100
Dapp Creek Flood Control	MD 92	100
Linaria North Flood Control	MD 92	100
Winnicky Drainage	MD 130	100
Chomiak Drainage	MD 130	100
Roscoe Drainage	MD 133	100
Rycroft No. 2 Drainage	MD 133	100
Sucker Creek Drainage	ID 125	50
Debolt Creek Drainage	ID 126	100
Chapman Drainage	ID 126	100
Little Prairie Drainage	ID 131	100
Letersky Drainage	ID 134	100
Deadwood Drainage	ID 138	100
Worsley Drainage	ID 139	100
Highland Park Drainage	ID 139	100

APPLIED SURFACE WATER HYDROLOGY

To properly provide hydrological information to all those concerned with water use and management it is necessary to have readily available a comprehensive store of related, observed and calculated knowledge. This program, therefore, includes the collection, compilation and province-wide analysis of hydrometric, meteorologic and river regime data.

Hydrometric (streamflow) observations started in Alberta around the turn of the century under the auspices of the federal government. The program has increased steadily since then with the exception of the post First War period which saw a sharp drop in the number of regular hydrometric observations. Since April 1, 1931, this program has been a co-operative venture between the federal and provincial governments. Water Survey of Canada continues to install hydrometric stations and to be responsible for the collection and publishing of data while the Province designates the locations at which observations are required and contributes to the cost of the program. The maintenance of this data in a readily useable and easily accessible form is one of the prime functions of the Applied Surface Water Hydrology Program.

Meteorological data is collected by the Meteorological Branch of the Department of Transport and becomes available either through their regular publications or by special request.

Previous annual reports outlined in detail the program of river surveys which have been carried on for several years by the Water Resources Division.

Considerable effort is being directed toward the handling of all of this data by digital computer. According to present schedules, thorough analyses of both the hydrometric and river regime information will be carried out by computer within a year.

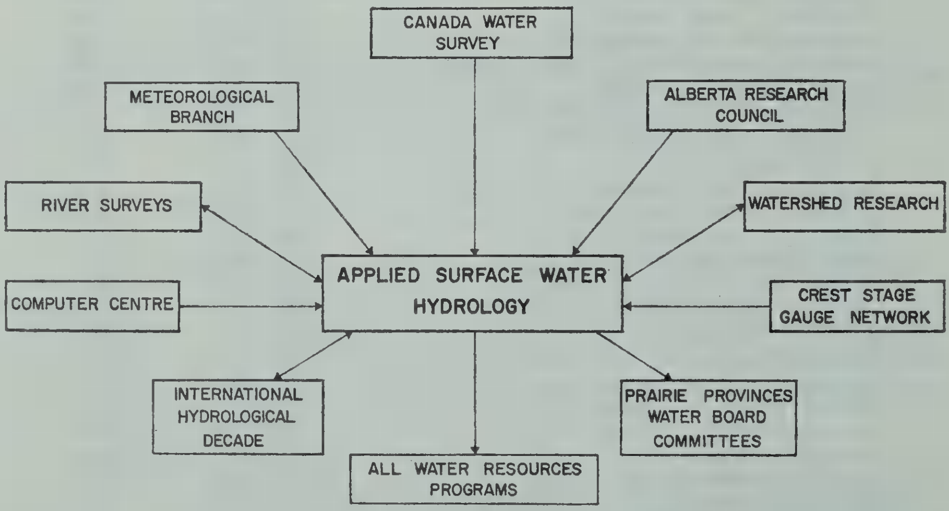

CANADA WATER SURVEY
METEOROLOGICAL BRANCH
ALBERTA RESEARCH COUNCIL
RIVER SURVEYS
WATERSHED RESEARCH
APPLIED SURFACE WATER HYDROLOGY
COMPUTER CENTRE
CREST STAGE GAUGE NETWORK
INTERNATIONAL HYDROLOGICAL DECADE
PRAIRIE PROVINCES WATER BOARD COMMITTEES
ALL WATER RESOURCES PROGRAMS

Figure 1 outlines the various agencies and departments that contribute to the provincial program.

FARM IRRIGATION AND DRAINAGE

This program provides technical service and information to aid people and agencies in the development, management, and use of water as it relates to agricultural production.

The program provides technical assistance (through trained technical and professional staff) on surface drainage and irrigation farm development.

Irrigation

Alberta farmers are continuing a program of improving their methods of irrigation. A total of 13,982 acres were surveyed and designed for land levelling and 8,636 acres were levelled.

Investigations and designs were also completed on 102 sprinkler systems. Approximately $1,700,000 was spent by farmers on land levelling, and sprinkler irrigation equipment, in 1968. The popularity of border dyke and wheel move sprinkler is increasing; 2,536 acres were dyked for hay and pasture crops this year. A report, "Economics of Land Levelling in Alberta 1964-1967", was completed by Mr. R. J. Miller of the Economics Division and is available from the publication office.

Proper timing of irrigation continued to be promoted through the Irrigation Gauge Program with 126 farmers participating.

Surface Drainage

A total of 388 applications requesting surveys and designs for farm surface drainage systems were received. Inspections were completed on 373 requests, 138 miles were surveyed, 90 miles designed, and 48 miles constructed.

Considerable staff time was spent on extension activities dealing with the technical aspects of irrigation and surface drainage. This included T.V. appearances, field days, talks at short courses and regional conferences, and discussion with small farm groups as arranged by the district agriculturist.

FLOOD-PLAIN AND RIVER CHANNEL MANAGEMENT

The objective of this program is to provide a measure of control both on the natural erosive action and the channel relocation of rivers and on the use and development of land subject to erosive or flooding attack.

There are several requisites for major river engineering works to be properly designed and operated. Amassing sufficient knowledge may require some or all of the following: surveys of present and potential problem areas in river flood-plains, analyses based on the theoretical principles of river engineering, and river model studies. Similarly, flood-plain surveys coupled with hydraulic computations to determine flood levels provide the basis for ruling on the suitability of river flood-plain areas for development. There is a great public desire to highly develop river-front land. Discouraging, where possible, the creation of certain risk to property and life, and protecting the same in other cases, are both necessary. Much of this type of work comes to the Water Resources Division from planning commissions.

Figure 2 outlines the various agencies and departments contributing to the provincial program.

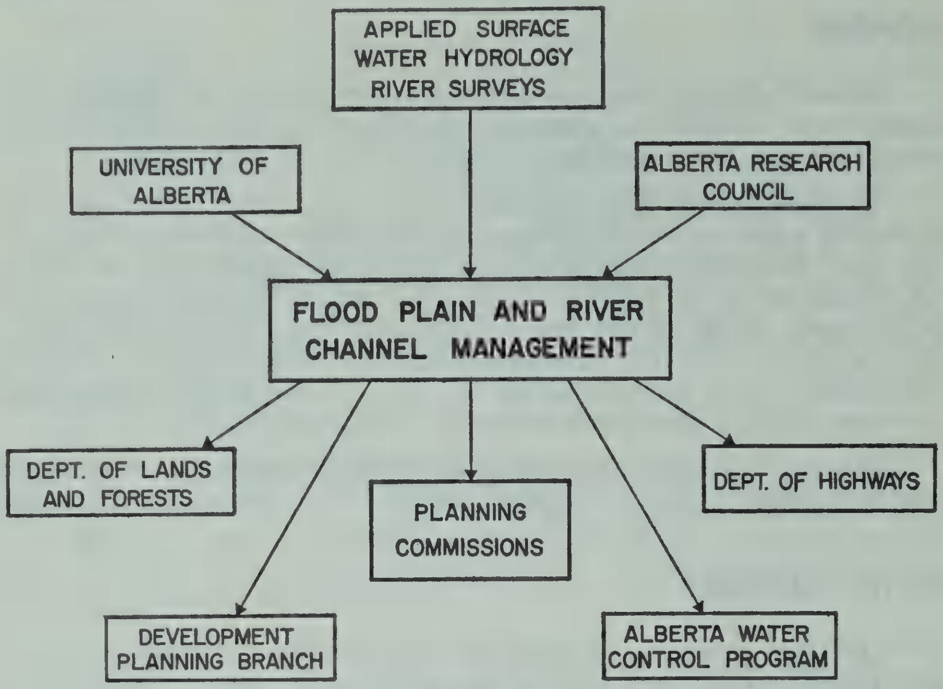

APPLIED SURFACE WATER HYDROLOGY RIVER SURVEYS
UNIVERSITY OF ALBERTA
ALBERTA RESEARCH COUNCIL
FLOOD PLAIN AND RIVER CHANNEL MANAGEMENT
DEPT. OF LANDS AND FORESTS
PLANNING COMMISSIONS
DEPT. OF HIGHWAYS
DEVELOPMENT PLANNING BRANCH
ALBERTA WATER CONTROL PROGRAM

Figure 2

FLOW FORECASTING AND RESERVOIR CONTROL

The need to warn of impending floods in certain areas is evident. Increasing demands on the natural water supply and the coming necessity to apportion the flow of the Saskatchewan River system between provinces makes proper forecasting and reservoir management imperative. The objective, to provide both long and short range forecasts of river and stream flows wherever such estimates are of definite benefit to the province, and to use such forecasts in a program of control on the major provincially controlled reservoirs, is a long way from being met. Progress awaits the hiring of a person competent in this field, a matter which is expected to be cleared up early in the new year.

Figure 3 outlines the various agencies and departments contributing to the provincial program.

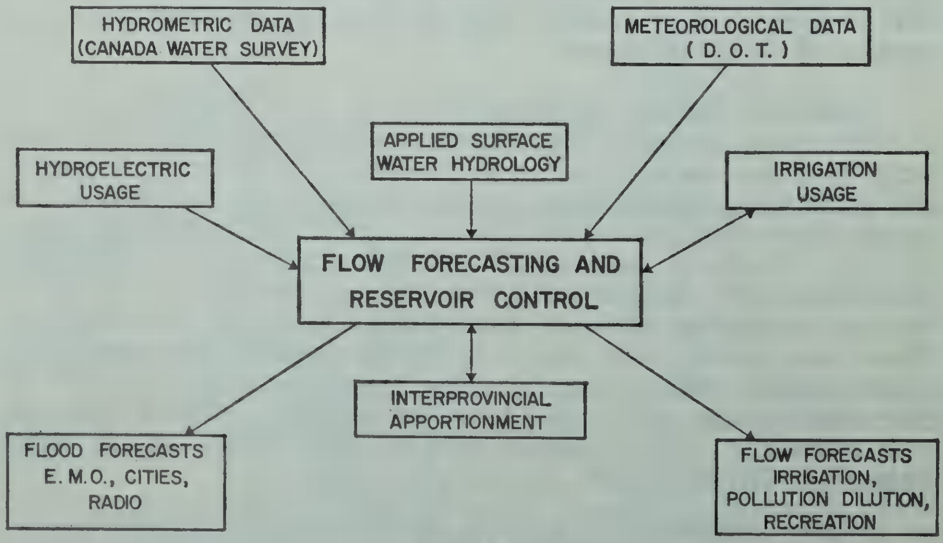

HYDROMETRIC DATA (CANADA WATER SURVEY)
METEOROLOGICAL DATA (D. O. T.)
APPLIED SURFACE WATER HYDROLOGY
HYDROELECTRIC USAGE
IRRIGATION USAGE
FLOW FORECASTING AND RESERVOIR CONTROL
INTERPROVINCIAL APPORTIONMENT
FLOOD FORECASTS E. M. O., CITIES, RADIO
FLOW FORECASTS IRRIGATION, POLLUTION DILUTION, RECREATION

Figure 3

GROUNDWATER EXPLORATION, INVENTORY AND DEVELOPMENT

The purpose of this program is to service rural areas of groundwater shortage. Shallow supplies and dugout sites are serviced on an individual basis, while deep exploration is done on a regional basis. Buried channel aquifers are receiving special attention because of their large potential development.

The Individual Water Development program is operated with the co-operation of district agriculturists. It explores surface water development through soils testing for dugouts and dams, and evaluates aquifers to a depth of 75 feet. No new requests for testing were accepted after April 1, but a backlog of 410 were serviced. In the Morinville and Athabasca areas, about one-third of the tests were successful. However, of the 150 requests in the Peace River area, only about 15 were successful from either a water quality or quantity standpoint. Despite the poor success ratio, farmer response indicates a need for such a program in this area. Hydrogeologic maps are being prepared to compare distribution of program success to surficial geology. In this way, priority can be given to requests from the most favorable areas, eliminating much unnecessary drilling. Dugouts will become the solution to water shortages in areas unfavorable for wells. Information from this program has been widely used in construction of dugouts, but few if any farmers have used it for well design.

As part of the multiple water resource use study, groundwater inventory field work was initiated in the Hanna area. This exploratory work will support office studies of existing information.

The final report on the Carmangay Buried Channel east from Woodhouse indicated groundwater yields up to 30 gallons per minute in the gravels and two gallons per minute in the St. Mary River Formation. Water obtained from the Willow Creek Formation is unsuitable for human consumption but may be suitable for livestock.

Air-borne infrared remote sensing surveys were conducted in the same area to evaluate its effectiveness in locating shallow groundwater supplies. Results were inconclusive. Anomalies definitely indicated moisture differentials, surface salt concentrations and/or soil textural differences. Adoption of the method to soil mapping as well as previous objectives should perhaps receive further attention. Since this was the first attempt in Canada to apply remote sensing in groundwater studies, further exploration will no doubt benefit the above pioneering.

Deep groundwater exploration continued in the Worsley, Manning and Oyen areas.

Under an A.R.D.A. agreement, a buried preglacial channel at Edson was evaluated as a source for a municipal water supply by test drilling along a distance of 14 miles. This established the location of the channel precisely and revealed the thickness of the gravel deposists. Three sites were then selected for pump testing. The information thus obtained will make it possible to calculate the proper spacing and yields of anticipated wells.

Results of this investigation are currently being interpreted and a report will be made available to A.R.D.A. in the spring of 1969.

Miscellaneous projects included a municipal well at Marlboro, a hot spring investigation at Luscar, and a study of groundwater availability for a feedlot operation just west of Calgary.

Groundwater instrumentation of the I.H.D. Irrigation Study Basin at Lethbridge was completed in 1968.

IRRIGATION STUDIES

This program is predominantly 1) applied research for the establishment of various irrigation criteria and design factors and 2) methods of demonstration for the benefit of farmers, service personnel and extension programs. Studies entail all facets of the hydrologic cycle related to irrigation and are objectively planned to make optimum beneficial combined use of Alberta's water and soil resources.

The following resume deals briefly with several major undertakings in the overall field of irrigation studies.

International Hydrologic Decade

Irrigation Study Basin (I.H.D.)

A total of six co-operating agencies are studying hydrological relationships in an irrigation project. Surface water, groundwater, soil moisture and meteorological instrumentation is now virtually complete. Detailed results thus far will be available in a report for 1968.

Shallow Groundwater Studies (I.H.D.)

The effect of 800,00 acres of irrigation development on soil drainage capability is continuing to be studied. This project consists of monitoring several thousand shallow groundwater installations to protect against land water logging and aid in the design of future drainage works.

Sewage Effluent Disposal Studies

Considerable interest in utilizing irrigation as a means of disposal of sewage effluent has been expressed in Alberta in recent years. Due to concern that soil and groundwater pollution may result from such practices, Water Resources Division personnel have conducted several studies in the past year.

Both field and laboratory studies have pointed out (in some cases) alarming physical and chemical effects as a result of effluent constituents being applied to certain soil types. Concrete co-ordinated effort is necessary to properly assess potential applications in this manner. The benefits in some cases are obvious but the harmful effects in others may be permanent. The studies will continue in 1969.

Irrigation Gauge

Through this program, farmers are advised (by subscription) on irrigation timing based on soil moisture levels. Extensive use is made of farm meetings and mass media to create an awareness of the need for efficient and properly timed water applications.

In 1968, early seeded crops were lost in some areas in southern Alberta due to heavy frost on May 10th. Soil moisture at the beginning of the season was relatively good and light frequent rainfalls from the end of May through June helped to replenish soil moisture. Due to below normal precipitation in July, the gauge budget system indicated that two or three irrigations were required.

To facilitate the collection of evaporation data for use in the Irrigation Gauge Program in the Edmonton region, the number of evaporation stations was increased to eighteen in 1968. Subscribers to the gauge increased to seven as the interest in irrigation became more evident. This evaporation data will also be used to complete evapotranspiration values for the region at large.

Irrigation Systems Studies

Both surface and sprinkler farm irrigation systems were studied and reports prepared. Additional testing was done on the Bow Island research plots. These evaluations were conducted in reference to soil characteristics which required the measurement of waterholding capacities, bulk densities, infiltration rates and moisture levels. The primary objective of these tests is to provide information for design personnel with regard to proper system dimensions, time of operations and capacities.

The long range objective is the establishment of accurate guidlines for future system design and development.

Two private irrigation developments outside the irrigation districts were studied this year to evaluate potential and to establish criteria for irrigation design and land development as a guide for irrigation development where it is not yet available.

Irrigation Plot Studies

Permission was obtained to use a 2.5 acre site at the Oliver Tree Nursery for controlled irrigation studies for the next five years. This fall, samples were taken from nonirrigated and irrigation grain and potato fields in the Edmonton district. The results indicated, as expected, increased yields with irrigation. Enough data was available from the potato samples to allow statistical testing. Total yield increase of potatoes was statistically significant (5% level) but marketable yield was not.

This resulted from an increase in culled weight of potatoes caused by poor shape with irrigation. It is suspected that the timing and amount of irrigation could be improved to reduce the percentage of culls.

Applied research was conducted in other areas with respect to soilwater and plant relationships with a view of improving the present technology for establishing allowable moisture depletion on various soils and for determining when that point has been reached.

LAKE RESOURCE MANAGEMENT

In 1946 a program of lake stabilization was initiated through the mutual co-operation of Ducks Unlimited. A system of data collection was added in 1953 and has since been enlarged and refined to its present status. The two main objectives of the program are as follows:

1. The conservation and development of major lakes for the multipurpose use of water.

2. Providing the public and government agencies with information such as geodetic lake levels, hydrographic plans etc.

This program provides engineering, technical and financial assistance in lake stabilization projects. Technical personnel are used in gathering data on lake levels and hydrographic surveys. These surveys are in turn used to prepare maps, plans, and charts which are available upon request (see figures 4 and 5).

Hydrographic Surveys

The hydrographic and sedimentation surveys continued during the past year and resulted in the sounding of 26 lakes. Data obtained from the water surveys was finalized in the form of subaqueous or bottom contours on a lake or reservoir plan. From these plans, it is possible to determine depth and storage capacities for application in the field of water conservation, recreation or industrial purposes.

Geodetic Surveys and Lake Levels

During the past year, 40 bench marks were constructed and geodetic datum elevations run to 25 of these locations. Two hundred periodic levels were taken of approximately 40 lakes throughout the province. In general, the level of most lakes in the province dropped from a few tenths to one foot. Lesser Slave Lake, for example, is now one foot lower than the mean 1967 reading and is considered well below the satisfactory level.

Lake Stabilization

Although no construction was carried out during 1968 on lake stabilization, several lakes were under active investigation. It is planned to call a contract during the winter for the construction of the Sturgeon Lake Control Structure. This structure, which is located in I.D. 126, is scheduled for completion in late summer of 1969. The project will not only assist in stabilizing the lake, but also ensure a more dependable supply of water to the Town of Valleyview, via Sturgeon Creek. Other lakes under consideration are Lac La Nonne, Hastings Lake, Shoal Lake and Lac Ste. Anne.

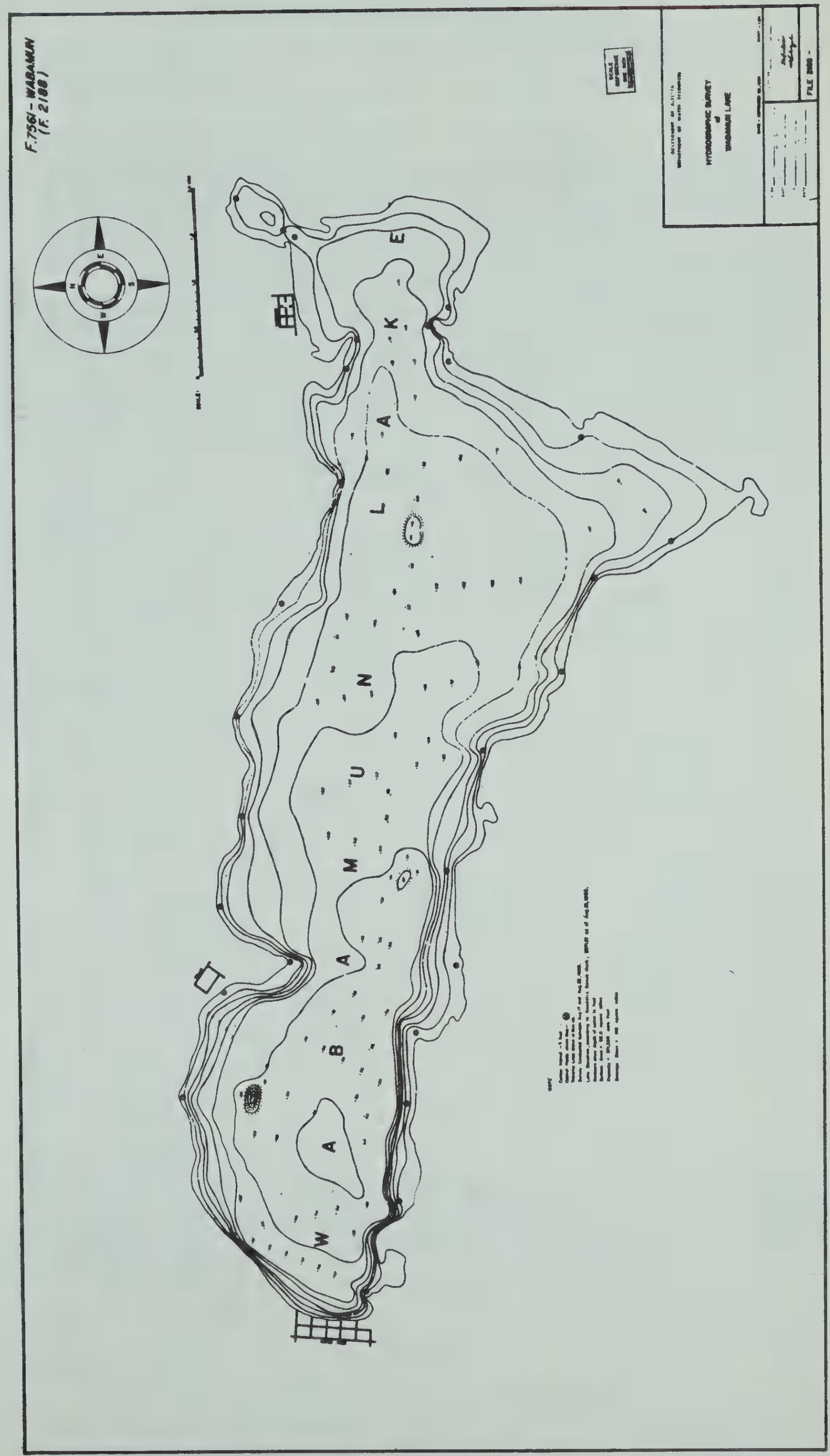

F.7561 - WABAMUN
(F. 2188)
N
E
S
W
SCALE
W A B A M U N L A K E
HYDROGRAPHIC SURVEY
of
WABAMUN LAKE
FILE

Figure 4

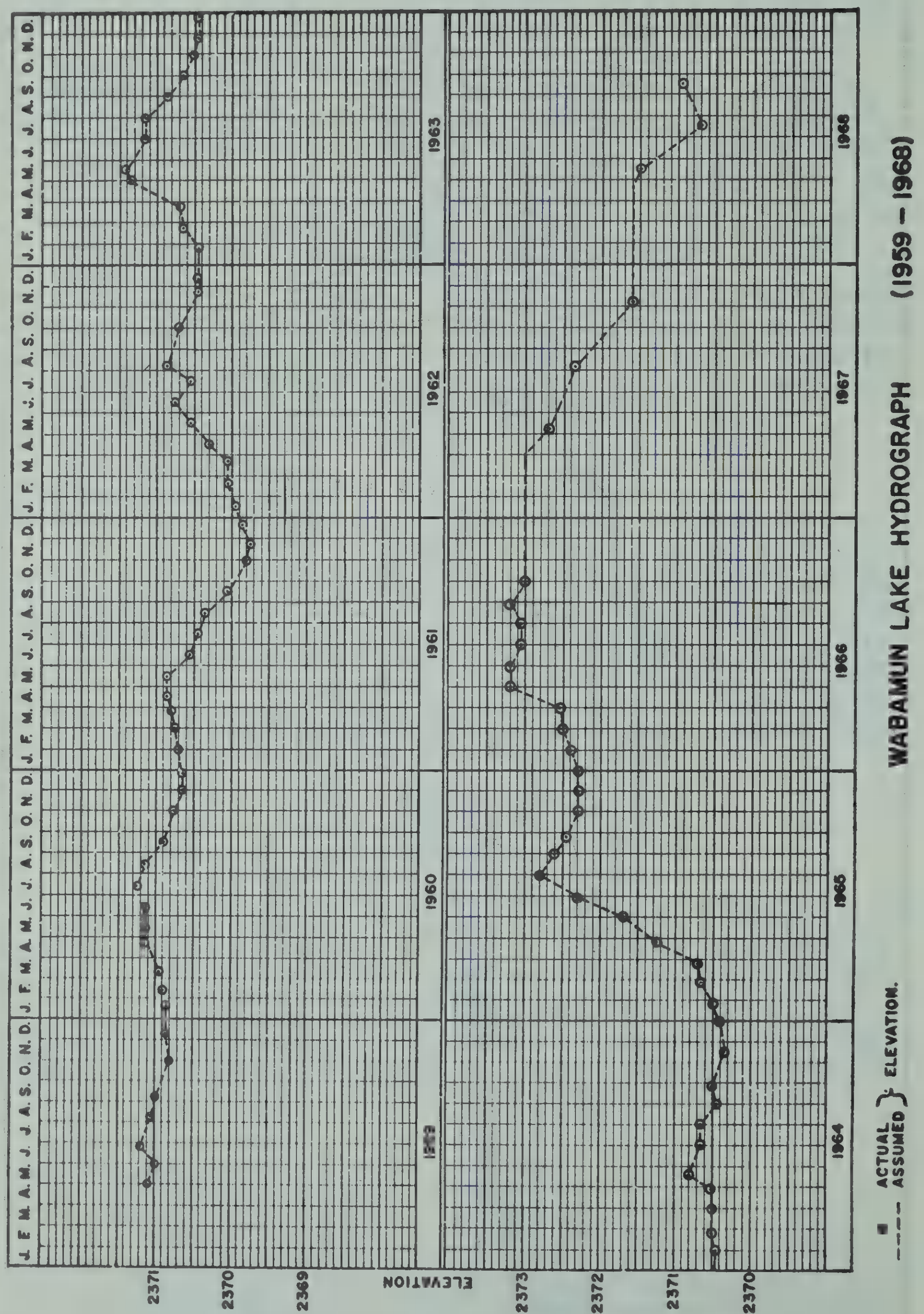

WABAMUN LAKE HYDROGRAPH (1959 – 1968)
J. F. M. A. M. J. J. A. S. O. N. D.
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
ELEVATION
2371
2370
2369
2373
2372
2371
2370
ACTUAL
ASSUMED
ELEVATION.

Figure 5

LAND DEVELOPMENT PLANNING

The program object is participation in the orderly planning and development of public lands for agricultural use.

The program was established to supply the Department of Lands and Forests with engineering and agronomic information relating to drainage, irrigation, and domestic water supplies in settlement areas. Preliminary reports and engineering estimates are submitted and included in the overall assessment of the area.

A preliminary engineering report was completed for Twp. 105, 106, and S ½ 107, in Rg. 113 in the La Crete area. A cost estimate of $500,000 for drainage was recommended for drainage construction prior to settlement. A preliminary report was also completed for Twp. 80, Rg. 9 and Twp. 79, Rg. 8, in the Blueberry Mountain area with a cost estimate of $22,000 recommended for drainage construction prior to settlement.

The division was also represented on three Technical Advisory Committees dealing with land utilization and conservation, provincial grazing reserves, and economic alternatives to land use in the Wapitti pilot study area. Subjects dealt with and reported on included, land clearing criteria to prevent water courses, flood plains, coulee slopes and lakes, being eroded, silted, and obstructed with debris; and the classification of topography to determine farm drainage requirement and suitability for cultivation.

The reforming of natural surface contours to minimize runoff while allowing better moisture infiltration may remove much of the effective crop moisture deficit in those parts of Alberta that are not serviced by irrigation. A test case near Walsh has been the object of an applied research program.

This acreage was bench terraced and proved effective in the conservation of winter precipitation. The effects of land leveling on basic soil surface characteristics such as water holding capacity and infiltration capacity, forms an important part of the study. Not only did terracing prevent runoff at this site but also prevented a considerable amount of normal snow blow-off, which left the soil of the benches considerably wetter than other parts of the farm after the spring thaw. This is a continuing study.

Land Levelling Trust Account

Total revenue for the year amounted to $74,435.34 with charges (less depreciation) $50,933.43, thus leaving a surplus of $23,501.91 to cover depreciation and interest.

The account experienced a very favorable year due to good weather conditions during the major part of the season and minimum amount of time was lost due to breakdown of equipment repairs.

Since 1957 a total of $66,000.00 has been repaid to the Provincial Treasury, leaving a balance of $40,468.56 owing. The original amount advanced by the Provincial Treasury in 1957 was $92,211.01 and this is being paid back at the rate of $10,000.00 per year.

In 1968 the cost of operation was somewhat more than in 1967 but a considerable surplus was left. The cost of earthmoving to clientele averaged from 14 to 16 cents per cubic yard of earth moved.

OPERATION AND MAINTENANCE

In past year operation and maintenance, when necessary, has been carried on by the Design and Construction Branch and External Administration Branch.

The amount of work done in this line in the past was not significant, being confined mainly to the operation and maintenance of the Aetna Leavitt Main Canal.

When the Alberta Water Plan was accepted under ARDA, funds for the continued maintenance of provincial projects had to be budgeted for separately as operation and maintenance does not come under this cost sharing plan.

The program instituted the 1968-69 season included:

1. Continued operation and maintenance of the Aetna Leavitt and Mountain View canal and reservoir.
2. The reconstruction of the Little Bow Canal in the vicinity of High River. Equipment and men from the Lethbridge region as well as some rental equipment were used to complete this work.
3. A tail-water structure at Heart River Dam # 1 was completed and some necessary repairs were made to the spillway chute itself. It is anticipated that some additional work in the form of grouting or guniting the interior of the chute will have to be done during the 1969 construction season.

THE PRIME CONCEPT OF INTERBASIN TRANSFER OF WATER

The map, Figure 6, is a schematic representation of the PRIME concept of interbasin transfer of water. The area of the circle drawn in each river basin is in proportion to the volume of water originating in that basin, compared to the total volume from all five basins. As can be seen, the greater volumes of water are available in the northern half of the province. In fact, the Peace and Athabasca River basins contribute some 72.5 per cent of the total flows of the five basins. However, the water demands, such as irrigation and industrial and municipal water requirements are concentrated in the southern half of the province.

The PRIME program would correct this inbalance between supply and demand by the orderly transfer of water from the more northerly basins southward to areas requiring supplemental water supplies. For example, water from the North Saskatchewan basin could be diverted to the Red Deer River system. To replace this diverted water, transfers could be made from the Athabasca basin to the North Saskatchewan River. Thus, by measuring the volumes of water available per basin, and by assessing the levels

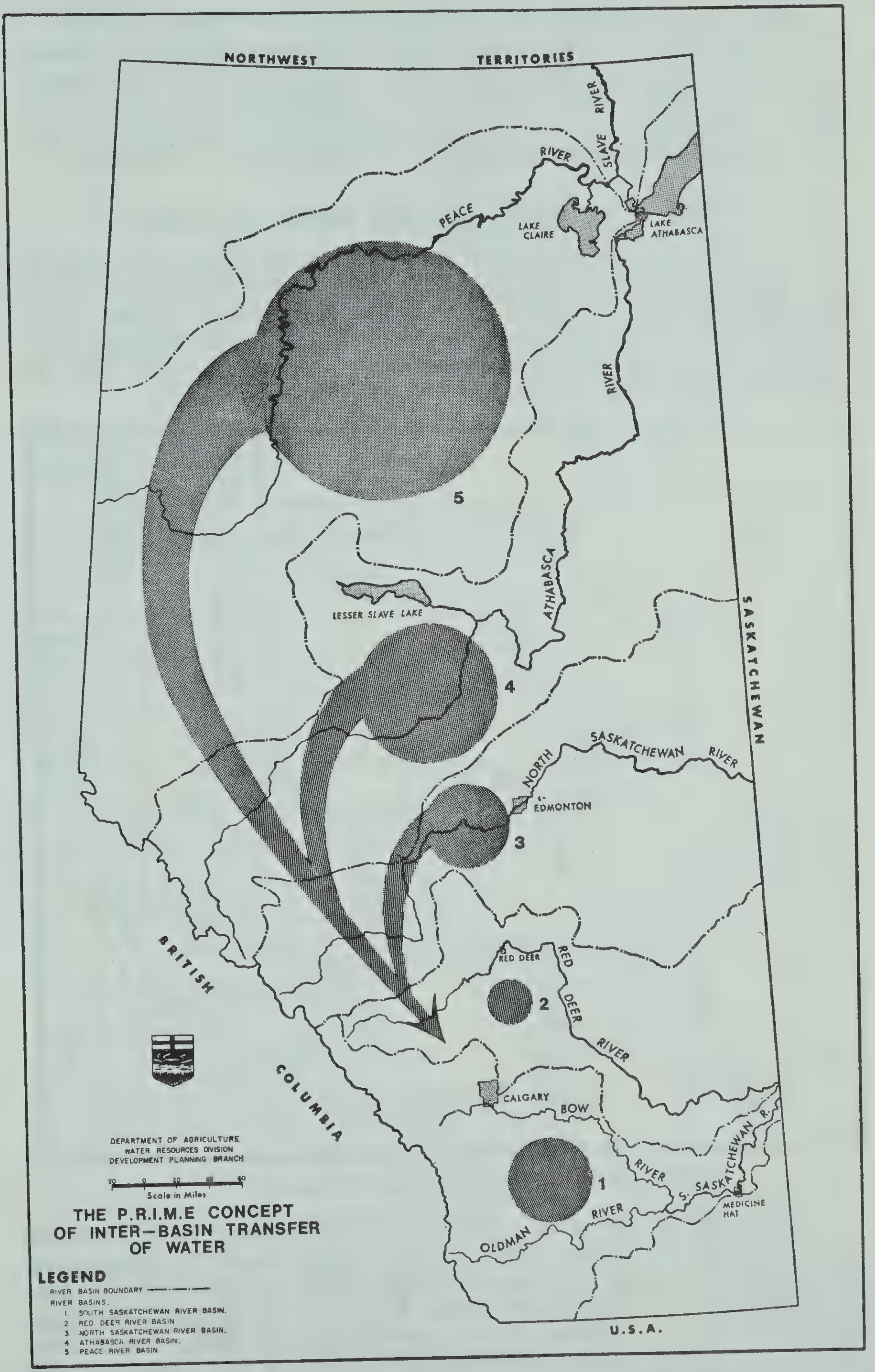

NORTHWEST TERRITORIES
SLAVE RIVER
PEACE RIVER
LAKE CLAIRE
LAKE ATHABASCA
RIVER
5
ATHABASCA
LESSER SLAVE LAKE
SASKATCHEWAN
4
NORTH SASKATCHEWAN RIVER
EDMONTON
3
BRITISH COLUMBIA
RED DEER
RED DEER RIVER
2
CALGARY
BOW RIVER
S. SASKATCHEWAN R.
MEDICINE HAT
1
OLDMAN RIVER
U.S.A.
DEPARTMENT OF AGRICULTURE
WATER RESOURCES DIVISION
DEVELOPMENT PLANNING BRANCH
20 0 20 60
Scale in Miles
THE P.R.I.M.E CONCEPT OF INTER–BASIN TRANSFER OF WATER
LEGEND
RIVER BASIN BOUNDARY
RIVER BASINS.
1. SOUTH SASKATCHEWAN RIVER BASIN.
2 RED DEER RIVER BASIN
3. NORTH SASKATCHEWAN RIVER BASIN.
4. ATHABASCA RIVER BASIN..
5. PEACE RIVER BASIN

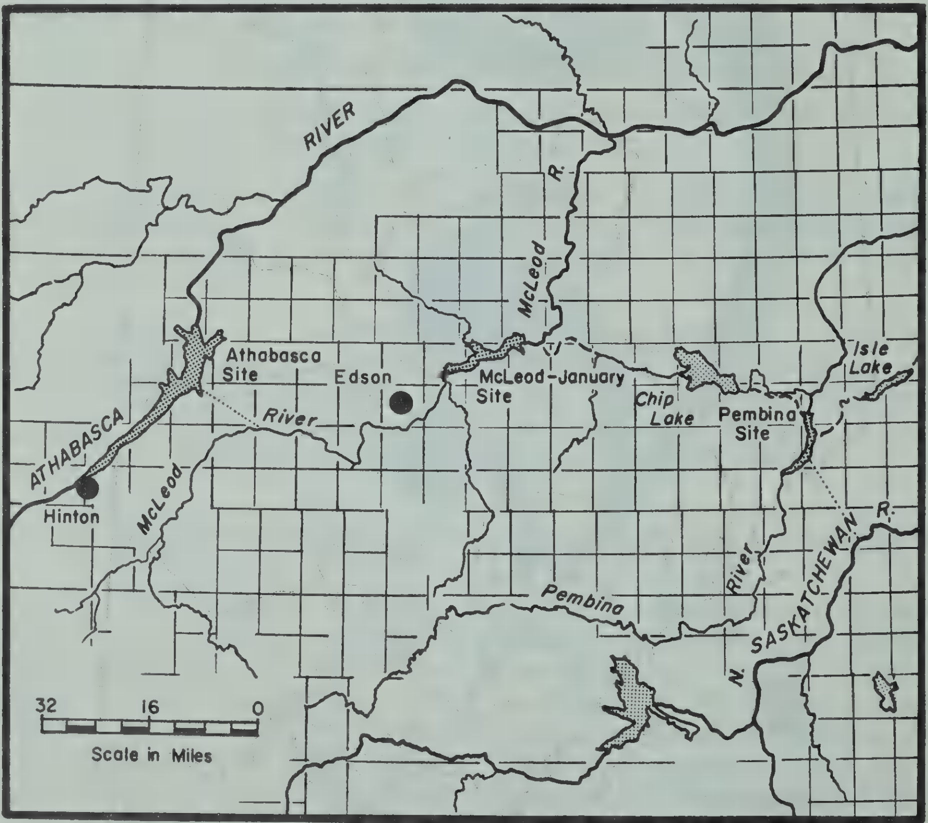
Figure 6

of present and future water demands in each basin, the optimal means of meeting the province's water requirements can be determined.

The study requires the participation and co-ordination of numerous governmental departments and agencies, both provincial and federal, to ensure optimum utilization of the resources in the basin. Figure 7 was prepared to illustrate these contributing agencies and departments. The dashed line illustrates a direct communication with the program by the various contributors.

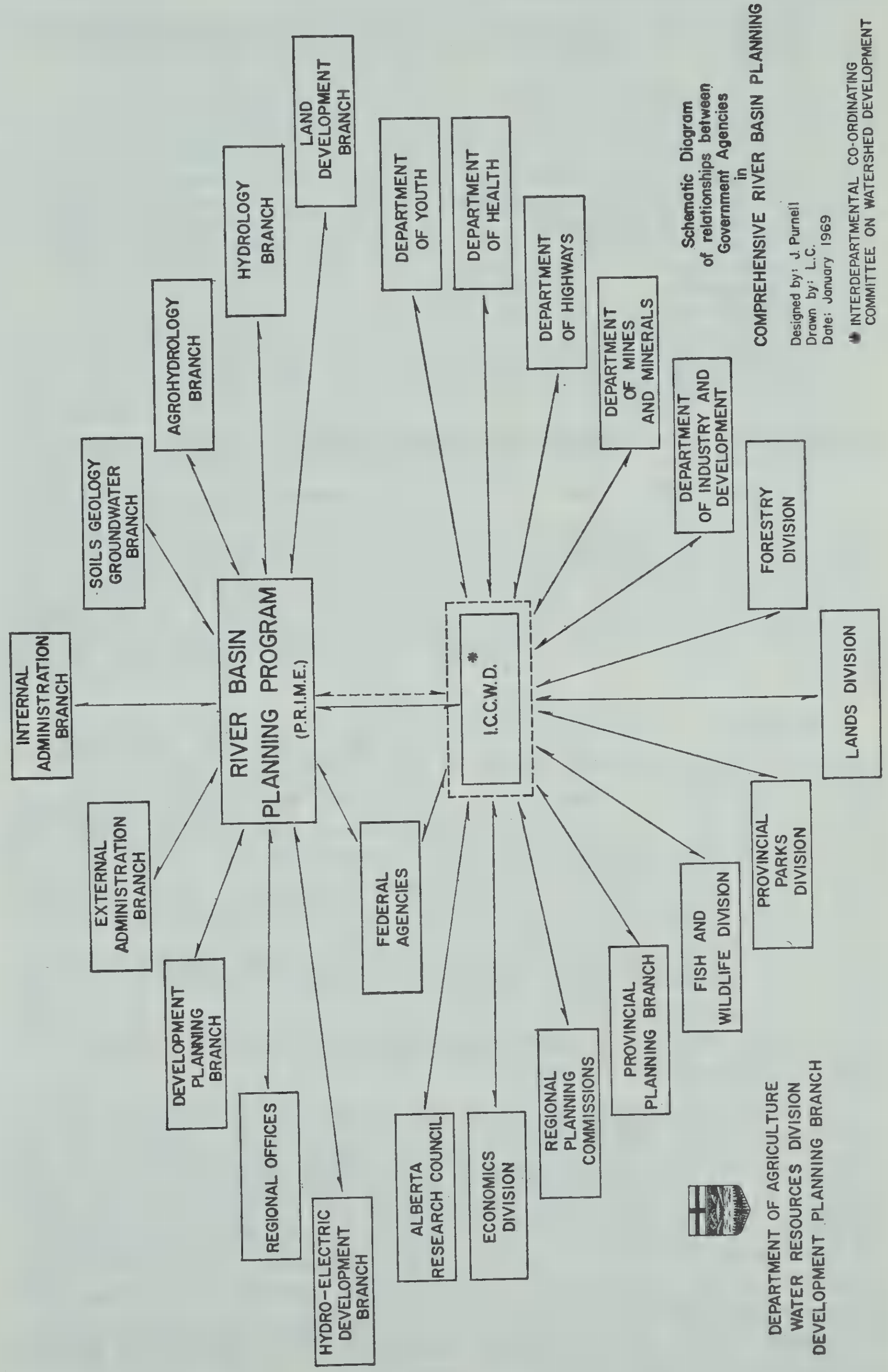
PRIME ATHABASCA RIVER BASIN PROJECT

The purpose of this project is to determine means of diverting water originating in the Athabasca basin into the North Saskatchewan River. Benefits of such a diversion included increased flows in the North Saskatchewan River in the Edmonton area, and replacing water diverted from the North Saskatchewan into the Red Deer River system under the PRIME program.



Proposed Athabasca river diversion.

Proposals under study during 1968 consisted of a damsite on the Athabasca River; a diversion tunnel from the proposed Athabasca Reservoir to the McLeod River; a damsite on the McLeod River; a diversion canal from the proposed McLeod Reservoir to the Lobstick River; conveyance of water down the Lobstick River to Chip Lake; a canal from Chip Lake to the Pembina River; a damsite on the Pembina River; and a diversion canal from the proposed Pembina Reservoir to Isle Lake. By this means, water from the Athabasca, McLeod, and Pembina Rivers could be diverted into the North Saskatchewan River. Mapping



Schematic Diagram of relationships between Government Agencies in COMPREHENSIVE RIVER BASIN PLANNING

Designed by: J. Purnell
Drawn by: L.C.
Date: January 1969

* INTERDEPARTMENTAL CO-ORDINATING COMMITTEE ON WATERSHED DEVELOPMENT

DEPARTMENT OF AGRICULTURE
WATER RESOURCES DIVISION
DEVELOPMENT PLANNING BRANCH

RIVER BASIN PLANNING PROGRAM (P.R.I.M.E.)
I.C.C.W.D.*
INTERNAL ADMINISTRATION BRANCH
SOILS GEOLOGY GROUNDWATER BRANCH
AGROHYDROLOGY BRANCH
HYDROLOGY BRANCH
LAND DEVELOPMENT BRANCH
EXTERNAL ADMINISTRATION BRANCH
DEVELOPMENT PLANNING BRANCH
REGIONAL OFFICES
HYDRO-ELECTRIC DEVELOPMENT BRANCH
FEDERAL AGENCIES
DEPARTMENT OF YOUTH
DEPARTMENT OF HEALTH
DEPARTMENT OF HIGHWAYS
DEPARTMENT OF MINES AND MINERALS
DEPARTMENT OF INDUSTRY AND DEVELOPMENT
FORESTRY DIVISION
LANDS DIVISION
PROVINCIAL PARKS DIVISION
FISH AND WILDLIFE DIVISION
PROVINCIAL PLANNING BRANCH
REGIONAL PLANNING COMMISSIONS
ECONOMICS DIVISION
ALBERTA RESEARCH COUNCIL

Figure 7

of proposed locations and routes progressed favorably, and drilling operations to test foundation conditions at the Athabasca damsite commenced late in the year. Investigations on these proposals are continuing.

Following is a summary of right of way negotiations and acquisition in connection with the Pembina River Dam:

Area required	5,800 acres
Purchased to date	4,350 acres
Balance required	1,450 acres
Sand and gravel purchased	6 million cubic yards
Complete farm units purchased	8 million cubic yards
Part farm units purchased	6 million cubic yards
Home sites purchased	9 million cubic yards
Summer resorts and hobby farms purchased	4 million cubic yards
Resident farmers to be bought out	2 million cubic yards
Units to be purchased	10 million cubic yards
Money spent to date	$363,000.00
Estimated cost to purchase balance	$125,000.00

PRIME NORTH SASKATCHEWAN RIVER BASIN PROJECT

The purpose of the North Saskatchewan River Basin Project is two-fold: firstly to assess the feasibility of diverting water from the North Saskatchewan River into the Red Deer River system; and secondly to establish present and future water demands in the Sturgeon River Development Study area. Diversion of North Saskatchewan water would replace consumptive diversions from the Red Deer River. Also, flow characteristics at the City of Red Deer could be improved.

Proposals under study include two potential damsites on the North Saskatchewan River in the vicinity of Rocky Mountain House. These two alternatives are being investigated to determine which is the more favorable site. During 1968, 2260 feet of bedrock were drilled, cored, and sampled, while 1380 feet of overburden were drilled and sampled in order to establish foundation conditions or the availability of borrow material.

From the proposed Rocky Mountain House Reservoir water could be diverted either directly to Lasthill Creek or to the proposed Horseguard Reservoir, and thence to Lasthill Creek. Either route would divert the North Saskatchewan River water into the Red Deer River system.

Another investigation underway in the North Saskatchewan River basin is in the Sturgeon River area. The possibility of diverting water for the Athabasca watershed into the North Saskatchewan River via the Sturgeon River is being studied. In conjunction with this, the present and future water demands of the Sturgeon River area are being assessed. To facilitate the water demands investigation, an interdisciplinary committee, the Sturgeon River Basin Development Committee was formed, under the sponsorship of the Interdepartmental Committee on Watershed Development.

The function of the committee is to ensure that all aspects of water development in the Sturgeon River area are considered, by encouraging an interdisciplinary approach to river basin planning. The various agencies represented on the committee have accepted responsibility for completing studies relating to each agency's interests, which are necessary to complete a regional plan for water development. The objective of the committee is the formulation of a regional water development plan designed to meet both short-term and long-term requirements in a manner which will benefit the greatest number at the least cost.

Proposals under investigation include improvement of the flow regime of the Sturgeon River; water quality improvement and stabilization of Lake levels on Lac Ste. Anne; and the possible utilization of Lake Isle for storage. Also, to assess all potential water demands, the suitability of the area for irrigation is being studied. A preliminary topography classification by quarter sections was initiated during the fall of 1968, as well as soils investigation for land classification. Both studies included reconnaisance helicopter inspections. Soil testing was concentrated along two cross-sections selected on the basis of information supplied by the Alberta Soil Survey Report 21, supplemented by field inspections. The testing consisted of shallow and deep drilling, hydraulic conductivity tests, and laboratory analysis. Results based on the two soil profiles will be projected over the entire area.

For the purposes of the irrigation classification, the Sturgeon River study area is defined as that block of land extending forty miles north of St. Albert, and bounded on the west by the Pembina River, on the south by the North Saskatchewan River, and on the east by Range 26, W4th M.

PRIME RED DEER RIVER DEVELOPMENT PROJECT

The study area of the Red Deer River Development Project includes the Red Deer basin plus large areas contiguous to the basin proper. The purpose of the study is three-fold: firstly, to determine the distribution and availability of water throughout the study area; secondly, to assess the present and future demands which will be made upon the area's water resources; and thirdly, to develop the optimal means of meeting these present and potential requirements, consistent with provincial policies.

A long-standing concept under investigation is that of diverting flows from the Red Deer River and by means of diversion canals and delivery systems, distributing water throughout east-central Alberta. Such a proposal would provide water for irrigating suitable areas, would supply stock water during years when local sources were inadequate, and would supplement existing municipal and industrial supplies. In addition, recreation facilities could be enhanced or expanded, and wildlife production benefited.

An economic study of the distribution area was undertaken in 1966 by the Farm Economics Division. A preliminary economic report on this study was completed during 1968. The results of this study are still under consideration.

The proposal presently under study consists of a mainstem dam on the Red Deer River near Ardley, approximately 24 miles east of the City of Red Deer. During 1968, both field and office investigations were conducted on the Ardley site. Investigation included hydrology studies, geological conditions, foundation conditions, and borrow material testing. A total of 1562 feet of overburden was drilled, while a total of 1026 feet of bedrock was cored. Based on field investigations, laboratory testing and office studies, preliminary structural design has been completed. A report entitled "Preliminary Engineering Report on the Investigation and Design of Ardley Dam" was finalized in December, 1968.

From the Ardley site, water would be diverted eastward by canal to that area of the province lying east of Sullivan Lake, and bounded on the north by the Battle River, and on the south by the Red Deer River. If Buffalo Lake was incorporated into the system as a reserve reservoir, its recreation potential could be increased significantly. Several large reservoirs also could be constructed in east-central Alberta to supply water for immediate local needs. Sites studies include Craig Lake, Richdale Site on Berry Creek, and other potential sites on Berry and Sounding Creeks.

A preliminary topographic classification for irrigation was carried out on land in the distribution section of the proposed Red Deer River Development Project during the summer of 1967. On the basis of field inspections, three tracts were chosen for classification. These were the Wardlow-Sunnynook tract; the Youngstown-Hemaruka tract; and the Acadia Valley tract. Classification was done on a quarter section basis. The factors evaluated were: earth moving requirements; field size and shape; length of irrigation run; downfield slope; side slope; and surface drainage. A total of 988,640 acres was inspected during the summer.

Preliminary work on soils classification for irrigation was also initiated during 1967. Some 50,000 acres were classified in detail that year. An additional four areas were chosen for investigation in 1968. These were the Kirkpatrick Lake, Acadia Valley, Wardlow, and Cessford blocks. These areas were chosen specifically to check irrigation potential of soil types.

The Kirkpatrick Lake area was investigated to further check sandy soils with solonetz characteristics. The Acadia Valley area was included to check the lacustrine materials found there while the Cessford tract was surveyed to determine the properties of the soils which are fine textured and which exhibit solonetz properties. The Wardlow tract received attention because of its excellent topography and normal appearing soils. A statistical summary of the work done during the 1968 season is shown in Table 2. Two hundred and fifty-seven parcels totalling 41,120 acres were soil classified in detail in 1968.

TABLE 2

	Kirkpatrick Lake	Acadia Valley	Cessford	Wardlow	Total
¼ Sections	93	34	80	50	257
Acres	14,880	5,440	12,800	8,000	41,120
Deep Holes	32	20	21	12	85
Water Table Wells	15	1	3	11	30
H. C. Rings	21	15	18	12	66
Wells	28	20	24	16	88
Soil Sample Analyzed	1,275	410	1,275	696	3,656

At this time enough data had been gathered to make a meaningful projection of areas that warrant further investigation. This projection would take the form of outlining areas for detailed soil survey, and presenting a preliminary distribution system proposal.

In addition to the storage and distribution system, diversion into the Red Deer River system is also being studied. Water from the North Saskatchewan basin could be diverted to the Red Deer River basin and stored at the Horseguard Site, located some eight miles southeast of Rocky Mountain House. From the Horseguard Site, water could be conveyed to Lasthill Creek a tributary of the Medicine River, which is a tributary of the Red Deer River.

The Horseguard Site would require two dams to provide adequate storage capacity. During 1968, a total of 2580 feet of overburden and bedrock was drilled, logged and sampled, to determine foundation and borrow conditions at the sites. As well, 464 feet were drilled and sampled along the route of the proposed Horseguard to Lasthill Creek canal.

PRIME - SOUTH SASKATCHEWAN RIVER BASIN STUDY

The objective of this study is to formulate a comprehensive and progressive development plan which will assist in the selection and scheduling of the most efficient and beneficial of various alternative water resource projects.

This study was initiated in 1966 as part of the PRIME concept of river basin planning. A team of economic consultants was commissioned jointly by the Alberta Department of Agriculture and the Canada Department of Energy, Mines and Resources to submit a study design as the first phase of the study.

The study design as submitted, provides for:

1. A physical resource inventory of:
    - (a) Surface and groundwater hydrology.
    - (b) Present land and water uses and potentials.
    - (c) Mineral resource uses and potentials.
    - (d) Climatological data.
2. Related studies on the following:
    - (a) Recreation, fish and wildlife.
    - (b) Flood control.
    - (c) Water quality and pollution control.
    - (d) Power requirements, uses and potentials.
    - (e) Population, employment and income.
3. A resource, economic base study by a team of economic consultants will project the land and water resource demands based on the projected population growth and economic forecasts of the region for the target years 1980, 2000, and 2020. This study will supply an important part of the information necessary for the engineering feasibility studies of the proposed systems designed to meet these demands.

4. Engineering feasibility studies and cost estimates of the broad components of alternative water development schemes including field investigations to determine the physical suitability of proposed damsites, canal routes, diversion tunnels, spillway and related structures.
5. A benefit-cost analysis of each alternative scheme will be made followed by selection of the most economically feasible and socially acceptable schemes.

Study Progress

The first step in co-ordinating this study and to ensure its completion by 1971 was to design a network diagram of the multi-activities to be done in the process of this study. Further co-ordination will be carried out through the Interdependence Co-ordinating Committee on Watershed Development.

Data collection on the resource inventory and population statistics is underway with assistance from the regional planning commissions in the study area in addition to our own staff.

Related studies in the outlined categories are expected to begin in January 1969. Following final negotiations on a contract between the economic consulting team and the provincial government, additional data collection related to the economic base study will be initiated.

Project Investigations

Prior to 1968, approximately 40 potential storage damsites had been identified in the basin and several of these have been investigated to assess their foundation conditions. These sites were investigated by P.F.R.A. at the request of the Provincial Water Resources Division. These sites include:

Pincher Creek Site

A storage project designed to meet the livestock and irrigation water requirements of approximately 20 farmers in the area would also augment the Town of Pincher Creek water supply. A preliminary engineering report and cost estimates have been received from P.F.R.A.; however, no decision has been reached on the construction of this dam.

Oldman — Three Rivers Site

This is a multipurpose storage reservoir to provide a controlled water supply for domestic, industrial, agricultural, flood protection, and stream flow augmentation purposes, as well as providing a substantial recreation facility in the area. A preliminary report on this project has been received from P.F.R.A.

Little Bow River — Azure Site

This is a multipurpose project to provide storage for supplemental irrigation to the Bow River Development Scheme, livestock and municipal water use to that area below the damsite. A preliminary engineering report and cost estimate are forthcoming from P.F.R.A. on this site.

Mosquito Creek — Connemara Site

This is a storage project for multipurpose use of water for irrigation and livestock on 160 farms and municipal water supply to several communities downstream from the damsite. Investigation on this site has been completed and a preliminary report is being prepared by P.F.R.A.

Land Classification

Land classification completed during 1968 as part of the study included 260 parcels of land mainly within the Lethbridge Northern and St. Mary River Irrigation Districts.

In addition, preliminary classification work was completed on the Peigan and Blood Indian Reserves where selected areas were classified.

As well as being of immediate benefit a considerable portion of the above work will be utilized at a later date in the South Saskatchewan River Basin land classification report which has been initiated to evaluate land use potentials in the basin.

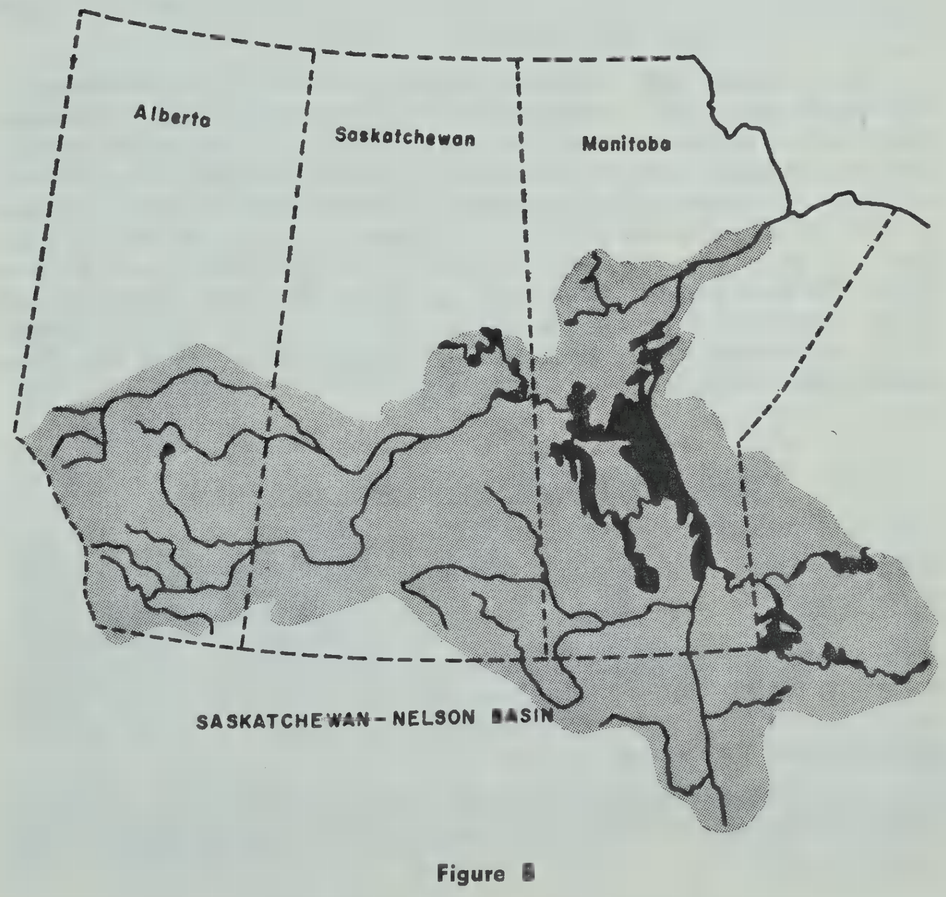


Figure 5

SASKATCHEWAN - NELSON BASIN STUDY

The PRIME concept of interbasin transfer of water from northern rivers southward is of interest, not only to the Province of Alberta but to the other Prairie provinces as well. Because

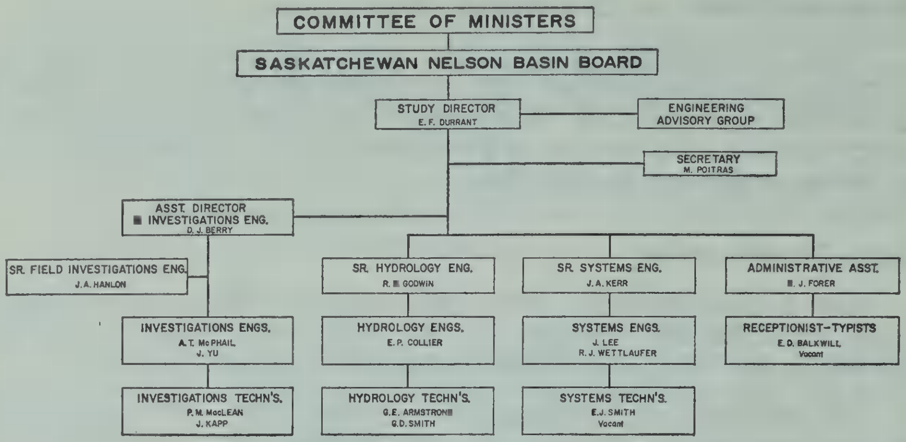

COMMITTEE OF MINISTERS
SASKATCHEWAN NELSON BASIN BOARD
STUDY DIRECTOR E. F. DURRANT
ENGINEERING ADVISORY GROUP
SECRETARY M. POITRAS
ASST. DIRECTOR [illegible] INVESTIGATIONS ENG. D. J. BERRY
SR. FIELD INVESTIGATIONS ENG. J. A. HANLON
SR. HYDROLOGY ENG. R. [illegible] GODWIN
SR. SYSTEMS ENG. J. A. KERR
ADMINISTRATIVE ASST. [illegible] J. FORER
INVESTIGATIONS ENGS. A. T. McPHAIL J. YU
HYDROLOGY ENGS. E. P. COLLIER
SYSTEMS ENGS. J. LEE R. J. WETTLAUFER
RECEPTIONIST-TYPISTS E. D. BALKWILL Vacant
INVESTIGATIONS TECHN'S. P. M. MacLEAN J. KAPP
HYDROLOGY TECHN'S. G.E. ARMSTRONG G.D. SMITH
SYSTEMS TECHN'S. E.J. SMITH Vacant

Figure 9

of their common interest in the Saskatchewan - Nelson River system, the three Prairie provinces initiated (1967) the Saskatchewan - Nelson Basin Study (see figures 8 and 9). The purpose of the study is primarily to determine the volumes of water that are available at selected points within the system, and how best to manipulate these flows to obtain optimum useage.

Both federal and provincial agencies are engaged in assessing runoff data and in foundation testing of potential damsites. These activities were carried out in several basins simultaneously and information collected will be co-ordinated with the PRIME program. Examples of downstream benefits which would accrue to the other Prairie provinces include diversion of water into the Red Deer River system which would increase flows to the South Saskatchewan Reservoir at Outlook, and diversion of water from the Arctic watershed into the North Saskatchewan River, which would increase the firm hydro potential of the Saskatchewan - Nelson River system.

SOIL DRAINAGE AND RECLAMATION

This program deals with problems involving reservoir and canal seepage, salted land reclamation and other general problems related to shallow groundwater on dry and irrigated farm land. Many thousands of acres of Alberta dryland are nonproductive due to seepage and salt accummulation. Farm reservoirs are losing much needed water due to lack of lining. Many small communities require assistance in dealing with shallow groundwater problems.

The program serves farmers, municipalities and communities. Investigations include drilling, test installation, design and final reports.

Drainage Investigations — Irrigated Land

Investigational services, preliminary to construction of subsurface drainage and canal lining in irrigated areas, were continued for districts within the Lethbridge region. Although much of the work was centered on the Taber Irrigation District, the St. Mary River Irrigation District, and the Bow River Irrigation District, services were available to the other irrigation districts on request. Seventy-one reports, making specific design recommendations were prepared and investigations involving 207 parcels of land affected to various degrees by seepage and high groundwater were completed. Investigations were started on part of the drainage basin south of Taber. This specific area requires special study to trace shallow bedrock aquifers and their influence on adjacent irrigated areas.

Dryland

Drainage investigations and subsequent remedial design recommendations were completed for two dryland seepage areas within the central region during 1968. These areas included farm land near Ellerslie and Mayerthorpe. With the receipt of three additional requests to date, an increasing response to this program by farmers in central areas is evident. Similar dryland seepage investigations commenced in the fall months, in the counties of Warner, Lethbridge and Vulcan. Response by individuals concerned will determine to a large degree whether or not the program will be continued. Although construction costs are income-tax deductable, the benefits are generally not clearly discernible due to the difficulty of reclaiming land for dryland production, and in most cases disposition of groundwater is a very real problem. Reservoir seepage investigations were limited to irrigated areas in the Lethbridge region. Two television shows were prepared specifically dealing with the use of plastic cut-off curtains and complete lining of reservoirs.

Applied Research

Applied research projects to provide basic subsurface drainage design criteria were either initiated, continued or terminated. A study of the feasibility of pump drainage to relieve shallow groundwater was initiated in the South Horsefly Lake area. Results to date are inconclusive: — the project will be continued in 1969. The Magrath drainage project was modified by the construction of a three-way trunk drainage system for the north and west Magrath area. Total isolation of the plot will be considered as a means of obtaining meaningful reclamation data. The tile drainage project near Medicine Hat was terminated following detailed soil sampling to measure reclamation rate. Continually improving chemical characteristics of the soil has been demonstrated on this project.

Soil monitoring was completed on 12 parcels where subsurface drainage has been provided. Evaluation of this program indicated bi-annual monitoring (spring and fall) was unnecessary due to the low rate of salt movement.

Seepage Damage Claims

Damage claim assessment continued as a service. When settlement of claims due to canal seepage could not be obtained by the irrigation district, an independent review was made. A total of 26 damage claim reports were prepared for 1967.

Three claims in the B.R.I.D. were settled upon completion of the reports. Of the remainder, seven were adjudicated by the Board of Public Utilities Commissioners and sixteen claims remained to be heard. Damage claims in 1968 exceeded those for the previous year and were being investigated at the time this report was written.

WATER RIGHTS LEGISLATION AND ADMINISTRATION PROGRAM

This program provides for the orderly development and the beneficial use of provincial water resources for all purposes through a system of licensing of the construction of works and the use of water; protects the interests of licensees; and otherwise exercises control of all activities permitted by legislation.

Legislation

The division is responsible for the administration of The Water Resources Act, The Ground Water Control Act, The Drainage Districts Act and, until May 2 of this year, for the various irrigation district statutes.

The administration of water law on the prairies, and specifically in Alberta, is older than the province itself. A brief history of the origin of present day statutes follows.

The Water Resources Act

The Northwest Irrigation Act of 1894, later known as the Irrigation Act of Canada, was the predecessor of the Water Resources Act. Following transfer of resources to the province in 1931 the provincial statute was patterned after the federal one.

Although many details have changed the basic principles remain the same: water is property of the Crown; the right to its use may be acquired upon compliance with the act; a water right is a form of property right appurtenant to the land and transferable. Fundamental differences between water rights and other property right are: a water right is a right of use only; it does not convey ownership of the water. Furthermore, a water right may be lost for non-use, abandonment or misuse.

The need to reserve water power sites in the name of the Crown was first recognized by an 1876 amendment to The Dominion Lands Act which excluded from sale those lands "having water power thereon which may be useful for driving machinery". The first water power regulations, still under the Dominion Lands Act, applicable to the provinces of Alberta, Saskatchewan and Manitoba were passed in 1909.

The first Dominion Water Power Act was passed in 1919 and the consolidated act and regulations of 1927 and 1928 became the basis for Part II of the Water Resources Act and the Water Power Regulations thereunder.

The Ground Water Control Act

Although groundwater was not brought within the scope of the Water Resources Act until 1961, it is interesting to note that programs to assist in the development of groundwater supplies were available to early settlers on the prairies. The government of the Northwest Territories provided augers to assist in locating groundwater as early as 1888. By 1890 several well boring machines were available at nominal cost for test drilling and well drilling. Subsequent water development assistance programs leaned toward surface supplies; however, aids to well drilling persisted for several years after the prairie provinces were formed.

The Ground Water Control Act of 1953 provided for the regulation of water well drilling for the primary purpose of obtaining information to aid in further groundwater development. The Act was also intended to provide eventually for the development and use of groundwater.

The Drainage Districts Act

Early organized drainage on the prairies was undertaken by the territorial government as an adjunct to roadbuilding with the owners of adjacent lands often becoming beneficiaries. This drainage work was done under authority of the Public Works Ordinance of the territories.

Wetter years after the turn of the century, plus the need for statutory provision to assess all benfiting lands, prompted passage of The Drainage Ordinance of 1903. This ordinance became the basis for The Alberta Drainage Act of 1908 which provided for the construction of drainage works by the province and for the assessment of costs of construction, operation and maintenance to individuals or agencies benefiting. The need for enabling legislation to permit local groups to construct, operate and maintain their own works prompted passage of The Drainage Districts Act of 1921. This Act provided for the establishment of a Drainage Council to assist and advise the local district board and, with some additions and amendments, forms the basis for the present Drainage Districts Act.

Irrigation Districts Act

Concurrent with passage of the federal Northwest Irrigation Act in 1894 the territorial government enacted the Irrigation Districts Ordinance to enable local organizations to manage district affairs. The first provincial statute, The Irrigation District Act of 1915, recognized existing districts established under the territorial ordinance.

Subsequently a variety of problems, associated with the establishment of major irrigation projects, resulted in the passage of numerous special acts applicable to individual irrigation districts. These acts tended to resolve problems in each district but complicated statutory administration by varying provisions from district to district.

Recent in-depth studies by the Irrigation Planning Board and the Irrigation Policy Committee resulted in bold recommendations for change among which were expansion of the Irrigation Council and amalgamation of all of the statutes pertaining to irrigation districts into one act.

Administration — Water Rights

A total of 254 applications for water rights were received and recorded in 1968. The distribution of these applications are related to drainage basin and purposes are shown in Table 3.

A total of 225 interim licenses and 265 licenses for all purposes were issued during the year.

Microfilming water right plans continued. A total of 26,477 plans were filmed and mounted in aperture cards during 1968.

Irrigation Right-of-Way

Right-of-way plans for the irrigation districts and for other purposes are processed and approved before forwarding to the Land Titles Office for registration. During the year the following right-of-way plans were registered:

St. Mary River Irrigation District	12
Bow River Irrigation District	9
Lethbridge Northern Irrigation District	3
Other Purposes	3

Irrigation Water Agreements

Water agreements between the irrigation district and the water users are approved, registered and filed in this office. During the year the following water agreements were processed:

TABLE 3

Water Rights Applications By Drainage Basin and Purpose — 1968

Drainage Basin	Dom.	Mun.	Irr.	Ind.	Other	Total
Athabasca River	4		2	1		7
Battle Creek						
Bow River	11		10		2	23
Churchill River		1	2	1		4
Endon Slough			1			1
Forty Mile Lake				1		1
Great Sandhills	1		1			2
Kindersley Lake	1					1
Lodge Creek	1					1
Manito Lake	4		2		5	11
Many Island Lake	11					11
McGregor Lake	1					1
MacKenzie River						
Milk River	4					4
North Saskatchewan River	23		18	3	5	49
Oldman River	17		9		1	27
Pakowki Lake	9	1				10
Peace River		1	1	2		4
Red Deer River	41		23	1	4	69
Sevenpersons Creek	10		3			13
South Saskatchewan River	2		3	3		5
Sullivan Lake	1		7		2	10
Tide Lake						
Wild Horse Lake						
Totals	141	3	82	9	19	254
Bow River Irrigation District						68
Eastern Irrigation District						5

Table 4 shows the major irrigation districts in Alberta and the areas that actually received water during the year 1967.

Property Control

The property control section of the External Administration Branch is generally responsible for the aquisition of right-of-way required under all programs. This includes preparation of contracts, negotiation and completion of transactions relating to right-of-way, easements, leases, damage claims, control of reservations on Crown land and public relations work during and prior to construction.

A major activity concerned acquisition of right-of-way for the Pembina River Dam, details of which are reported under the PRIME Athabasca River Program. Other specific activities include: land acquisition for Sundre flood control; land acquisition and damage claims on the West Prairie River diversion; land exchange in the vicinity of the Town of High River for the Little Bow River canal right-of-way; relocation of grazing leases for the Spring Creek watershed; field estimates of cost of right-of-way for flooded areas at Deer Lake and Big Lake; and checking alleged damage caused by Vermilion River dam.

Inspection Services

The need to more accurately determine the agricultural, engineering, and economic feasibility of individual irrigation projects prompted an increase in the number of inspections prior to allocation of water. Detailed information was submitted by land development staff in 54 agricultural reports and considered along with the application and plan before interim licenses were issued.

TABLE 4

STATISTICS IN CONNECTION WITH THE MAJOR IRRIGATION DISTRICTS IN ALBERTA — 1967

Name of District	Constructed Area	Receiving Water in 1967	Source of Supply
St. Mary and Milk River Development	187,000.0 Acres	160,000.0 Acres	St. Mary River
Magrath Irrigation District	8,506.0 Acres	5,000.0 Acres	All through the
Raymond Irrigation District	20,760.0 Acres	17,000.0 Acres	works of the
Taber Irrigation District	57,726.0 Acres	25,904.0 Acres	S.M.M.R.D.
Western Irrigation District	150,000.0 Acres	12,870.0 Acres	Bow River
Eastern Irrigation District	200,000.0 Acres	196,549.0 Acres	Bow River
Bow River Development (Federal)	94,000.0 Acres	61,829.0 Acres	Bow River
Bow River Development (Provincial)	25,000.0 Acres	10,107.0 Acres	Bow River
Mountain View Irrigation District	3,719.0 Acres	2,789.0 Acres	Belly River
Leavitt Irrigation District	4,523.0 Acres	4,523.0 Acres	Belly River
Aetna Irrigation District	6,672.0 Acres	2,523.0 Acres	Belly River
United Irrigation District	33,972.0 Acres	11,866.0 Acres	Belly River
Lethbridge Northern Irrigation District	89.223.0 Acres	47,962.0 Acres	Oldman River
Macleod Irrigation District	Not operating	47,962.0 Acres	Oldman River
Ross Creek Irrigation District	2,069.0 Acres	1,250.0 Acres	Gros Ventre Creek
Totals	883,170.0 Acres	560,172.0 Acres	

Groundwater and Water Well Drilling

Administration of the Ground Water Control Act involves licensing of all water well drillers in the province and the collection of completion reports on each well. Inspections are carried out relative to well complaints, flowing holes, report submissions, and industrial and municipal water wells are recorded as a prelude to licensing of major groundwater users.

During the past year over 450 personal contacts were made in an effort to improve the quantity and quality of the water well reports. Copies of all submissions were forwarded to The Research Council of Alberta to aid in groundwater studies.

A water well driller's directory was published indicating all licensed operators, addresses, number and type of machines. Copies were distributed to drillers, district agriculturists, interested commercial firms and other government agencies.

In the field of extension work, talks were given at three water supply schools. The programs were arranged by the Extension Division for the benefit of water well drillers and farmers. Talks were given at the annual Water Resources Conference and at the Annual Water Well Driller's Association Convention.

The following is a summary of information relative to the water well drilling industry, showng a comparison for the years 1965 to 1968.

	1965	1966	1967	1698
Number of licensed water well drillers	233	212	210	217
Full time	94	95	91	97
Part time	74	78	59	62
Occassional	57	36	54	57
Out of business	8	3	6	1
Number of drilling rigs	282	250	239	253
Rotary	123	120	111	115
Cable Tool	87	82	83	85
Jetting	30	23	22	31
Boring	42	25	23	22
Number of drilling reports received	2,020	1,850	1,970	1,900

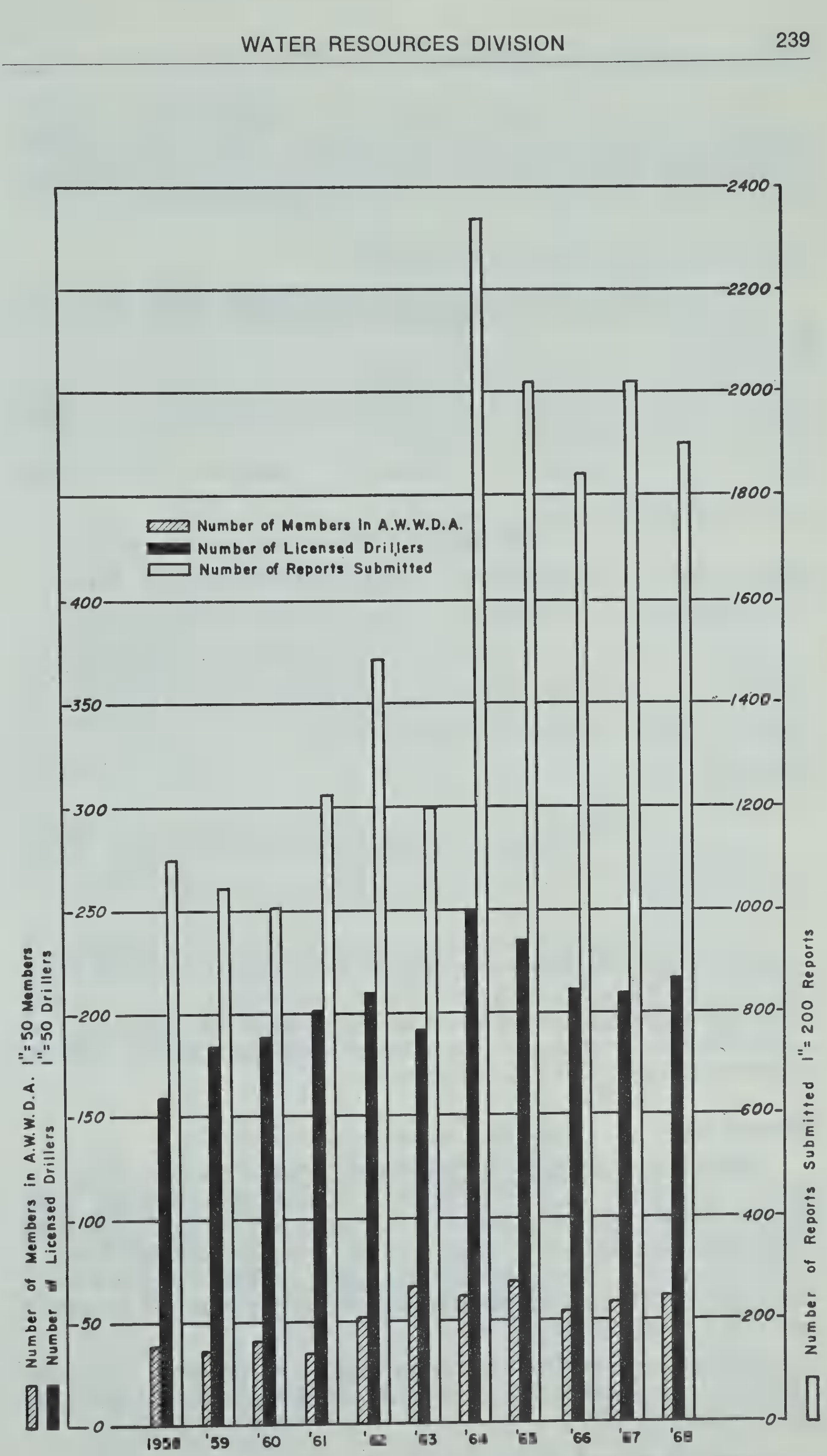


FIGURE 10 - SUMMARY OF LICENSED DRILLERS AND REPORTS SUBMITTED

Figure 10 summarizes the relation between the number of licensed drillers, the number of members of the Alberta Water Well Drilling Association and the number of reports submitted from drillers during the years 1958 to 1968 inclusive.

Emergency Water Supply Operations

The following is a summary of the activities under the emergency water supply policy using equipment supplied by the division:

Town	No of Gallons Supplied	No. of Feet of Pipe	Date Pumping Commenced	Total Days
Waskatenau	2,000,000	1,000	5 March 1968	14
Faust	365,000	3,835	26 August 1968	16

WATER POWER

Hydro-electric Development — North Saskatchewan River

Brazeau Dam and spillway structure was started and most of the concrete structure completed. The spillway is expected to be available in 1970. When this spillway is complete the conduits will be permanently closed. In 1970 the full supply of the reservoir will be raised to elevation 3170.

Bow River

Further studies have been carried out at Eyremore site which is approximately 15½ miles downstream from Bassano Dam. The proposed damsite is near the north side of section 13 and 14 in 18-18-W4th.

The proposed full supply level of this reservoir would be elevation 2,594, the same elevation of the present Bassano Dam. The present Bassano Dam has virtually no storage, whereas this proposed structure would have an estimated 105,000 acre feet with 14 feet of drawdown. This project would fit in with present irrigation planning and development.

Bighorn Site

Further investigation of this site located in section 35-38-17-W5th was carried out. The location is approximately 80 miles west of Rocky Mountain House. The dam will be approximately 1,400 feet long, 300 feet high and will contain 3,800,000 cubic yards of earthfill. The lake will be approximately 20 miles long. The estimated total surface area at full supply level of elevation 4,335 is 13,700 acres.

Investigation is proceeding as rapidly as possible and construction is expected to start in 1970 and be completed not later than the fall of 1973.

Athabasca and Peace Rivers

No new work was done on the Athabasca River but further studies were carried out on the site one and one-half miles above the Dunvegan Bridge.

Vermilion Reservoir

This reservoir is no longer needed for the steam plant at Vermilion but is being retained for park purposes and future work will be park responsibility.

WATERSHED RESEARCH PROGRAM

The rate of land development and forest clearing, and the increasing demands for the efficient use of our natural resources demand a high level of understanding as to the effect of man on his natural environment. The objectives of the watershed research program are:

1. To provide information necessary for effective management of our water, soil and forest resources.
2. To provide an understanding of the basic relationships between the elements of the hydrological cycle and their interaction on the environment.

This division's major effort along this line has been centered in the Spring Creek Watershed located southwest from Valleyview. This study is concerned directly with the effect of agricultural development on the hydrological characteristics of forest land. Initial instrumentation is practically complete now and meaningful analyses will have to wait until hydrologic information has been collected over several years.

As a result of co-operative involvement in a number of other watershed research areas in the province by eight different provincial and federal agencies a careful analysis of needs, goals and progress in watershed studies in Alberta is being conducted.

Figure 11 outlines the various agencies actively contributing to the provincial program.

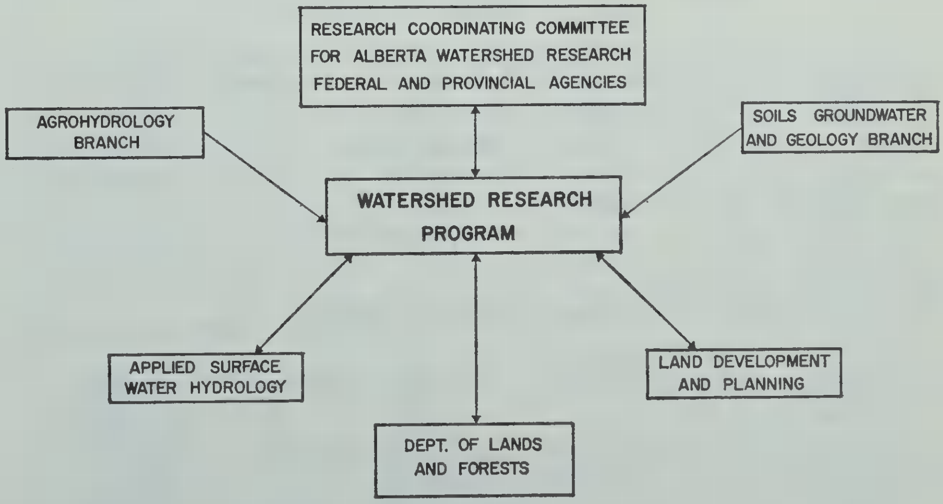

RESEARCH COORDINATING COMMITTEE FOR ALBERTA WATERSHED RESEARCH FEDERAL AND PROVINCIAL AGENCIES
AGROHYDROLOGY BRANCH
SOILS GROUNDWATER AND GEOLOGY BRANCH
WATERSHED RESEARCH PROGRAM
APPLIED SURFACE WATER HYDROLOGY
LAND DEVELOPMENT AND PLANNING
DEPT. OF LANDS AND FORESTS

Figure 11

LAND MANAGEMENT BRANCH

Land manager activities were subject to change during 1968 with the approval of new regulations respecting land sales under Order-in-Council 18/68 passed January 2, 1968 and later the passing of the Irrigation Act 1968, on May 2, 1968.

The Advisory Committee held two meetings in April and December to make recommendations for land sales and advise on progress and potential of those settlers in arrears. Some progress was made with arrears through land sales, general payup and extension of agreements. The statistical records indicate this progress (see Tables 5, 6, 7, and 8).

The main issue facing the majority of settlers today is establishment of a viable unit through land consolidation or intensification of enterprise.

A comprehensive report on the settlement program was prepared for publication this year.

TABLE 5

S.M.R.D., B.R.D. AND HAYS

	1964	1965	1966	1967	1968
Settlers Established	298	300	303	303	308
Quitclaimed, Withdrawals, Cancelled	46	56	58	61	61
Total Number of Purchase Agreements	379	385	388	393	406
Agreements Paid Up	224	201	182	163	159
Additional Parcels Allotted	56	62	62	65	73
Parcels of Land Remaining Unsettled	80 (*53-CP)	86 (*48-CP)	99 (*31-CP)	102 (*31-CP)	93 (*31-CP)
Number of Parcels of Land Leased	97	110	99	102	93

(*CP refers to lands reserved for Community Pasture development).

TABLE 6

Settlers in Arrears — S.M.R.D.

Year	Land Number	Amount	Water Right Number	Amount
1964	93	$215,846.65	77	$22,200.24
1965	87	200,997.69	72	20,882.83
1966	74	160,959.51	59	14,928.23
1967	69	159,663.19	51	13,495.70
1968	65	175,836.85	52	13.031.97

Settlers in Arrears — B.R.D.

Year	Land Number	Amount	Water Right Number	Amount
1964	55	$ 84,398.74	43	$ 6,798.78
1965	52	91,772.21	50	10,291.13
1966	44	93,528.01	40	10,969.56
1967	40	85,848.91	37	10,030.28
1968	32	82,634.85	27	7,107.98

TABLE 7

Water Right Agreements — S.M.R.D.

Year	Active Agreements	Agreem. Paid up	Number in Arrears	Amount of Arrears
1964	1,154	552	741	$105,392.90
1965	1,109	630	716	98,846.61
1966	1,053*	780	657	89,433.44*
1967	902@	940	517	60,186.26**
1968	732@@	1,191	497	54,192.38***

* Includes 101 Interim Water Right Agreements.
@ Includes 102 Interim Water Right Agreements.
** Includes 50 Interim Water Right Agreements in Arrears.
*** Includes 77 Interim Water Right Agreements in Arrears.
@@ Includes 129 Interim Water Right Agreements.

Year	Active Agreements	Agreem. Paid up	Number in Arrears	Amount of Arrears
1964	293	28	190	$ 21,698.23
1965	319	40	217	29,774.16
1966	305	45	172	23,242.48
1967	287	64	93	9,398.46
1968	271	83	118	12,282.74

TABLE 8

Collections on Low Sale and Water Right Agreements

S.M.R.D.

	1965	1966	1967	1968
Land Sale	$ 48,000.00	$ 66,000.00	$44,000.00	$44,000.00
Water Right	119,000.00	112,000.00	96,000.00	73,000.00

B.R.D.

	1965	1966	1967	1968
Land Sale	$ 9,000.00	$36,000.00	$44,000.00	$31,000.00
Water Right	21,000.00	30,000.00	31,000.00	24,000.00

Work on land settlement programs in the St. Mary River Irrigation District and Bow River Irrigation District was continued for the land manager of the Land Management Branch. As resources personnel to the Regional Director, Lethbridge Region of the Water Resources Division, the staff was called into consultations and studies regarding various resource development work in the region. Assistance was also given to the Economics Division staff members on economic studies in this region when required. The scope of involvement remained very broad and the service was somewhat delayed due to the heavy demand.

The following major programs were undertaken during the year: Farm Business Program — 1967 — S.M.R.I.D. and B.R.I.D.

Eighty-seven settlers in the St. Mary River Irrigation District and Bow River Irrigation District participated in this program for the year 1967. Details regarding their farm operations were summarized, analyzed and returned to each individual for study.

The late wet spring, combined with a fairly dry summer, resulted in lower crop yields and farm earnings than those studied in 1966. However, the farm costs continued to rise.

During 1967, capital investment was at a slower pace except in the Taber District, and the per cent return to capital was much lower than previous years in all the settlement areas.

Highlights of the studies are as outlined in Tables 9 and 10.

TABLE 9

St. Mary River Irrigation District Settlement 1966 and 1967

	Medicine Hat		Bow Island			
	Seven Persons		Grassy Lake		Taber	
	1966	1967	1966	1967	1966	1967
Farms Reported	36	31	14	14	16	14
Total Land Area	433	425	641	623	286	311
Cultivated	278	280	379	372	212	234
Cropped	233	239	317	320	190	217
Irrigable	134	124	145	128	134	148
% of Land Area	31%	29%	23%	21%	47%	48%
Total Investment - $	42,720	41,971	45,920	49,158	54,495	60,700
Land and Buildings - $	23,176	22,838	24,100	25,157	27,070	29,094
Machinery and Equipm. - $	8,461	8,427	10,886	12,042	14,634	17,729
Livestock - $	6,730	6,771	7,544	7,271	10,391	10,883
Grain and Feed - $	4,353	3,935	3,390	4,688	2,400	2,994
Total Operating Revenue - $	12,353	10,819	12,907	10,999	18,163	18,328
Total Operating Expenses - $	5,557	5,764	7,366	7,168	10,346	13,287
Net Farm Income - $	6,796	5,055	5,541	3,831	7,817	5,041
Labour Earnings - $	4,862	3,146	3,552	1,625	5,388	2,370
% Return to Capital	8.8	5.0	5.4	1.8	8.1	2.8
Net Capital Ratio	3.9:1	3.9:1	4.8:1	4.4:1	3.9:1	4.1:1
Capital Turnover (Years)	3.5	3.9	3.6	4.5	3.0	3.3
Value of Crop Produced - $	8,858	8,036	7,764	10,834	13,012	15,501
Per Cultivated Acre - $	31.86	28.70	20.49	29.12	61.38	66.24
Total Equipm. Investment - $	8,461	8,427	10,886	12,042	14,634	17,729
Per Cultivated Acre - $	30.44	30.10	28.72	32.37	69.03	75.77

	Seven Persons		Grassy Lake		Taber	
	Medicine Hat		Bow Island			
	1966	1967	1966	1967	1966	1967
Total Annual						
Equipment Cost - $	3,044	3,226	3,538	3,940	5,329	6,603
Overhead Cost - $	1,556	1,543	2,049	2,356	2,760	3,345
Operating Cost - $	1,488	1,683	1,489	1,584	2,569	3,258
Per Cultivated Acre - $	10.95	11.52	9.34	10.59	25.14	28.22
Overhead Cost	5.60	5.51	5.41	6.33	13.02	14.30
Operating Cost - $	5.35	6.01	3.93	4.26	12.12	13.92
Percentage						
Overhead Cost	51%	48%	58%	60%	52%	51%
Operating Cost	49%	52%	42%	40%	48%	49%
Total Annual Farm Costs	7,691	7,862	9,662	9,626	13,071	16,322
Overhead Cost	4,153	4,124	5,058	5,307	5,426	6,466
Operating Cost	3,538	3,738	4,604	4,319	7,645	9,856
Per Cultivated Acre	27.67	28.08	25.49	25.88	61.65	69.75
Overhead Cost	14.94	14.73	13.34	14.27	25.59	27.63
Operating Cost	12.73	13.35	12.15	11.61	36.06	42.12
Percentage						
Overhead Cost	54%	52%	52%	55%	42%	40%
Operating Cost	46%	48%	48%	45%	58%	60%

BOW RIVER IRRIGATION DISTRICT SETTLEMENT
1966 AND 1967

TABLE 10

	Enchant, Lomond and Travers	
	1966	1967
Farms Reported	23	25
Total Land Area	749	736
Cultivated	549	578
Cropped	344	361
Irrigable	147	170
% of Land Area	20%	23%
Total Investment - $	54,171	55,992
Land and Buildings - $	28,058	31,015
Machinery and Equipment - $	11,252	12,384
Livestock - $	4,065	4,230
Grain and Feed - $	10,796	8,363
Total Operating Revenue - $	18,498	13,338
Total Operating Expenses - $	6,980	7,920
Net Farm Income - $	11,518	5,418
Labour Earnings - $	8,970	2,775
% Return to Capital	15.1	4.2
Net Capital Ratio	4.4:1	4.4:1
Capital Turnover (Years)	2.9	4.2
Value of Crop Produced - $	18,020	13,136
Per Cultivated Acre - $	32.82	22.73
Total Equipment Investment - $	11,252	12,384
Per Cultivated Acre - $	20.50	21.43
Total Annual Equipment Cost - $	4,283	4,710
Overhead Cost - $	2,065	2,363
Operating Cost - $	2,218	2,347
Per Cultivated Acre - $	7.80	8.15
Overhead Cost - $	3.76	4.09
Operating Cost - $	4.04	4.06
Percentage		
Overhead Cost	48%	50%
Operating Cost	52%	50%
Total Annual Farm Costs	9,700	10,720
Overhead Cost	5,130	5,784
Operating Cost	4,570	4,936
Per Cultivated Acre	17.67	18.55
Overhead Cost	9.34	10.01
Operating Cost	8.33	8.54
Percentage		
Overhead Cost	53%	54%
Operating Cost	47%	46%

Farm Business Analysis — Irrigated Soils - 1967

Arrangements were made for this group to be transferred to the Extension and Economics Divisions for leadership. However, staff engaged in study meetings and workshops during the year when requested.

Resources Economics

Consultations and studies were made as to the feasibility of land purchases in the St. Mary River Irrigation District and Bow River Irrigation District for reclamation projects, or for resettlement programs. These generally involved some detailed surveys in the field as to the present conditions and cropping patterns, as well as the projection for the future years.

A benefit-cost analysis was completed in co-operation with the Design and Construction Branch on "Rebuilding Irrigation Distribution Systems for the Lethbridge-Coaldale Project". Four of the six originally suggested methods were studied and evaluated:

1. Repair the present system.
2. Rebuilt earth canal distribution system.
3. Concrete pipe low pressure system.
4. Steel pipe closed pressure system.

It was found that all systems were justified; however, System 1 showed the best benefit-cost ratio. The report was presented to the department for consideration.

Extension and Public Relations

Considerable time was expended to attend and address meetings. One lecture on the economics of irrigation farming was also given in March to the Lethbridge Junior College irrigation and drainage class.

In August, a week long training program for a Colombo Plan Trainee from Ghana on general economics, farm management and land settlement programs was carried out by staff. This program included farming experience, as well as tours of agricutural marketing plants in the Lethbridge and Medicine Hat areas.

Consultations were held with South Saskatchewan River Irrigation Project Advisory Committee members to discuss problems relative to planning of irrigation projects in Saskatchewan.

Distribution of farm business summaries and economic charts and graphs on St. Mary River Irrigation District and Bow River Irrigation District settlements for extension purposes was continued.

REPORT OF THE WHEAT BOARD MONIES TRUST

Report of the Board of Trustees of the
Surplus Wheat Board Money Received by the
Government of the Province of Alberta from 1916 - 19
Canadian Wheat Board

Members

Honorable H. A. Ruste	—Minister of Agriculture — Chairman
Dr. E. E. Ballantyne	—Deputy Minister of Agriculture — Member
Hugh M. Thompson	—Olds, Alberta — Member
Minot L. Stetson	—Edmonton, Alberta — Member
H. W. Gaebel	—Secretary

During the year ending December 31, 1968 receipts were $14,290.32 which includes the redemption of City of Calgary debentures and interest on investment.

A reinvestment was made on the purchase of $5,500.00 Alberta Resources Railway 7½% debentures.

Payments during the year amounted to $8,020.00 being the payment of scholarships and bursaries and investment purchases.

Meeting

A meeting of the Board of Trustees was held August 29, 1968 and scholarships and bursaries to be awarded were approved for the ensuing year totalling $5,850.00. The Board has continued the policy of conserving the principal in the Trust Fund, making all payments from income received on interest on investments.

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
BALANCE SHEET AS AT DECEMBER 31, 1968

ASSETS

Current		
Bank Balance	$ 6,270.32	
Accrued Interest Receivable	1,001.41	$ 7,271.73

Investments			Par Value	Book Value
Gov't of Can.	3¾%	Jan. 15/78	$ 2,500.00	$ 2,507.60
Prov. of Sask.	5½%	Feb . 15/82	5,000.00	4,975.99
Alta. Gov't Tel.	6 %	Apr. 15/92	45,000.00	45,000.00
Prov. of Newfl'd.	3¾%	June 1/76	4,000.00	3,975.84
Alta. Res. Rail	7½%	Aug. 1/73	5,500.00	5,000.00
Univ. Comm.	7 %	Dec. 1/92	8,000.00	7,923.64
Prov. of B.C.	3 %	Dec. 15/69	45,000.00	44,976.98
			$115,000.00	$114,360.05

Total Investments — Book Value	$114,360.05
Total Assets	$121,631.78

LIABILITIES

Trust Fund December 31, 1967	$119,142.25
Add: Surplus for 1968	2,489.53
	$121,631.78

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
ACCRUED INTEREST RECEIVABLE AS AT DECEMBER 31, 1968

Government of Canada Debentures					
$ 2,500.00	3¾%	January 15,1978	5½ Months		$ 42.96
Province of Saskatchewan Debentures					
$ 5,000.00	5½%	February 15, 1982	4½ Months		103.13
Alberta Government Telephones Debentures					
$45,000.00	6%	April 15, 1992	2½ Months		562.50
Province of Newfoundland Debentures					
$ 4,000.00	3¾%	June 1, 1976	1 Month		12.50
Alberta Resources Railway Corporation Debentures					
$ 5,000.00	7½%	August 1, 1973	5 Months		156.25
Universities Commission Debentures					
$ 8,000.00	7%	December 1, 1992	1 Month		46.67
Province of British Columbia Debentures					
$45,000.00	3%	December 15, 1969	½ Month		56.25
Bank Interest					
November 1968		$5,690.00 @ 2%		9.35	
December 1968		5,595.00 @ 2%		9.50	18.85
Add: Accumulation of Discount					
Accrued on Prov. of Saskatchewan				.78	
Accrued on Prov. of Newfoundland				.81	
Accrued on Universities Commission				.30	
Accrued on Prov. of British Columbia				.96	2.85
Less: Amortization of Premium					
Accrued on Government of Canada				.55	.55
Net Accrued Earnings to December 31, 1968					$1,001.41

TREASURY DEPARTMENT
WHEAT BOARD MONIES TRUST FUND
STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE YEAR ENDED DECEMBER 31, 1968

Bank Balance January 1, 1968		$ 4,895.07
Add: Interest on $ 2,500. Canada	$ 93.74	
Interest on $ 5,000. Province of Sask.	275.00	
Interest on $45,000. Alta. Gov't Telephones	2,700.00	
Interest on $ 4,000. Prov.of Newfoundland	150.00	
Interest on $ 4,000. City of Calgary	140.00	
Redemption of 4,000. City of Calgary	4,000.00	
Interest on $ 8,000. Universities Commission	560.00	
Interest on $45,000. Prov. of British Columbia	1,350.00	
Bank Balances	126.51	9,395.25
		$14,290.32
Deduct: Payments and Investment Purchases		
Scholarships — Fairview School	300.00	
— Olds School	1,500.00	
— Vermilion	350.00	
— University of Alberta	700.00	
— Red Deer Junior College	150.00	
Meeting expense	20.00	
Purchase of $5,000. Alta. Resources Railway	5,000.00	8,020.00
Bank Balance December 31, 1968		$ 6,270.32

ALBERTA PROVINCIAL LIBRARY
AUG 21 1970
EDMONTON